

COMMERCIAL CAR JOURNAL

MARCH 1961

CCJ

THE MAGAZINE OF FLEET MANAGEMENT

A CHILTON PUBLICATION

NITROGEN
FREEZING

REGULATION

AFDOUS
CODE

CO₂
CHILLING

RATINGS

REFRIGERATION
a special report

Also in this issue

ATA cost study
Brake testing
LP gas safety

and more—

see page 2

FOAMED
INSULATION

SPLIT
LOADS

PERISHABLES HANDLING

WHITE

RECOGNIZES KYSOR SHUTTER BENEFITS



Improved Fuel Economy



Increased Engine Life

Can you afford to miss these savings on your gas trucks?

THE WHITE MOTOR COMPANY
CLEVELAND 1, OHIO

February 1, 1961

Kysor Heater Company
Cadillac, Michigan

Subject: Kysor Air-Operated Radiator Shutters

Gentlemen:

At the present time, practically all White diesel powered chassis are Kysor equipped and also many such radiator shutters are used on White gasoline powered chassis.

Customer satisfaction with Kysor shutters is evidenced by the many repeat orders which we receive calling for these automatic shutters. In our opinion, even temperature control is essential for economical and dependable transportation, and the use of Kysor automatic shutters is an important factor in assuring such even cooling system temperatures.

Very truly yours,

THE WHITE MOTOR COMPANY

E. R. Sternberg, Chief Engineer

WHITE 9000T GASOLINE
TRACTOR, EQUIPPED WITH
KYSOR AUTOMATIC SHUTTERS



KYSOR

automatic Radiator Shutters

KYSOR HEATER COMPANY

CADILLAC, MICHIGAN

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**"OUR AVERAGE RING
MILEAGE IS NOW UP
TO 291,302 . . ."**



"We rebuild our engines only with Pedrick Rings," states Mr. Vernon F. Evers, Maintenance Superintendent, United Shipping Co. and Red Truck Line, Inc., of Minneapolis, Minn., who operate over 400 units, including 100 heavy-duty tractor-trucks in interstate hauling between Minneapolis, Fargo and Chicago. "On our diesel engine overhauls, we use the ring that assures us trouble-free ring mileage and low oil consumption for more than 200,000 miles between overhauls. Our average now is up to 291,302 miles on a set of rings. In

Vernon F. Evers, Maintenance Superintendent, United Shipping Co. and Red Truck Line, Inc., 2601 Broadway Rd., N. E., Minneapolis, Minn.

view of this, we feel that Pedrick is the ring to do the job."

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More details? Circle 124 on reply card inside back cover

*Featuring
this month*

*a 16-page
special report
on
REFRIGERATION*

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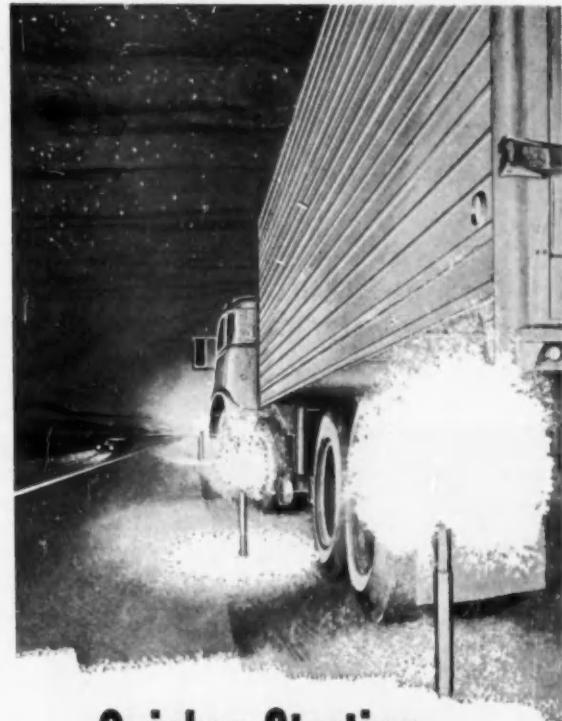
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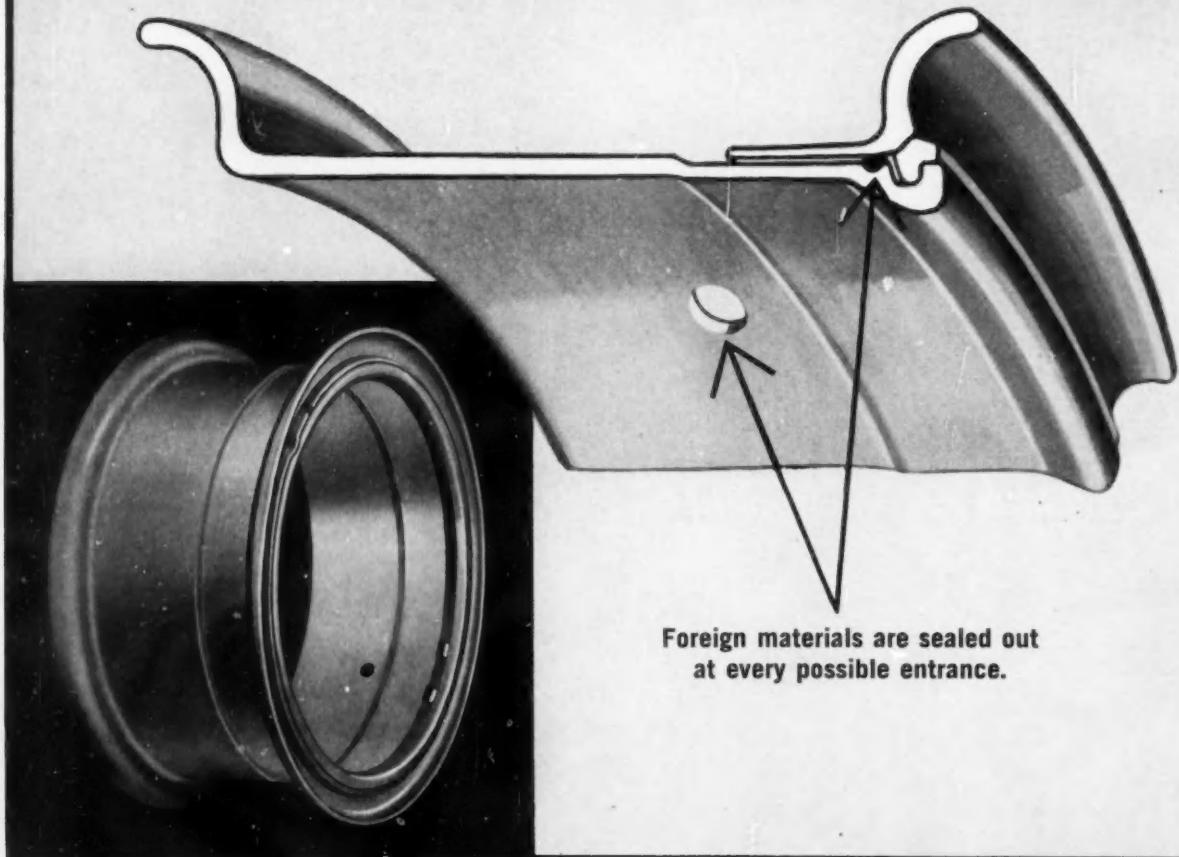
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THE OVERLOAD

EDITORIAL COMMENT

"What Have You Done for Me Lately?"

THAT'S A FAVORITE old standby of our industry. And a good one to keep people on their toes. But there are a lot of folks doing things for you lately. You may not know much about them or their activities. That's why I decided to keep the question in mind as I made meetings of several national associations last month.

The circuit began with a meeting of the Society of Business Magazine Editors in Washington. With scores of other editors serving many industries, we explored ways and means of keeping a magazine like this one interesting and vital.

The Truck-Trailer Manufacturers Assn. came next in Florida. There the members swapped ideas to make their products useful for you. Ideas like the new developments in reefer building (see page 100). They also heard spokesmen from:

American Trucking Assns. "give 'em hell" with constructive comments on the quality and design of their trailers . . .

Automobile Manufacturers Assn. report on many joint projects to make the tractor-trailer combination a better vehicle . . .

Society of Automotive Engineers discuss technical standards for the industry.

Then we moved on to Dallas to join members of the Private Truck Council as they thrashed out the challenging problems in their phase of

the industry. Included were the big batch of government proposals pouring out of Washington these days like a three-alarm fire. They also heard how:

The National Safety Council continues its fight on accident reduction.

The American Standards Assn. has been setting up a new set of rules and goals for safety supervisors.

The Western Highway Institute has been spearheading the drive for uniform reciprocity and proration of taxes among the states.

Then in Los Angeles, the Automotive Service Industries Assn. held forth. It's probably the one you know least, yet it's one of the very biggest. The membership represents both the manufacturers and wholesalers of all the parts and shop supplies you buy every day from your local jobber. Main event of the week: The annual International Automotive Industries Show, one of the biggest exhibit shows on earth.

There the cycle swung full circle. Still in "L. A." we pulled in *all* the COMMERCIAL CAR JOURNAL staff. Object: To make this particular magazine the best fleet working tool you'll come by now and in the years ahead.

Aspirin, anybody? No, it's all part of the game. But it's good to know that there are a lot of folks working to make your job a little easier, a little more profitable, and perhaps even a little more fun.

Bart Rawson
Editor

New International® Trucks

The most-improved light-duty models
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For cushioning cargo and for driver comfort, new Travelall® by INTERNATIONAL has independent torsion-bar front suspension. Now you can get the ideal dual-purpose passenger and payload carrier—the INTERNATIONAL station wagon in standard or custom body, choice of 7 chassis. 124 cu. ft. space behind front seat.

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Stop in today at your INTERNATIONAL Truck Dealer or Branch for the whole story. Drive and price the new INTERNATIONAL light-duty models.



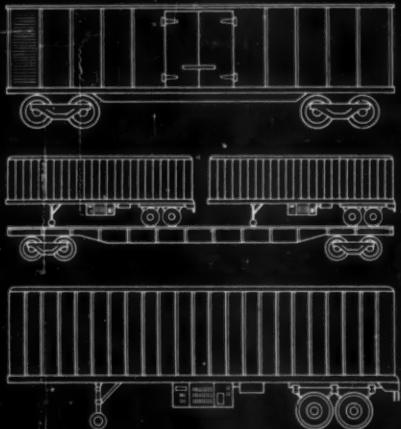
Your most reliable worker can be a new INTERNATIONAL pickup—standard or Bonus-Load body. Sturdy all-steel construction throughout, ribbed floor lessens friction when loading or unloading. Body lengths of 7 and 8½ feet. V-8 engine power is standard, other "sixes" and more powerful V-8 optional. Power steering, power brakes, automatic and 4-speed transmissions also available.

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Carburetor Float Setting
Studebaker Truck Steering
Preventing Body Corrosion
Adjusting Corvair Clutch
Tips from Cummins on Engine Knocks



**TIMELY NOTES ON TRUCK, BUS, PASSENGER CAR
FLEET MAINTENANCE and OPERATION**
briefed by ED SHEA, Technical Editor

Oil Filler Breather Cap Filters

OIL FILLER breather cap filters are important to efficient engine operation. However, according to engineers at Champion Spark Plug Co., they are so inconspicuous as to frequently be forgotten in regular maintenance checks.

In normal operation, the crankcase breather system draws clean air into the crankcase through the breather cap. This air is circulated through the crankcase to remove water and gasoline vapors and other blowby products that accumulate. It's then exhausted through a suitable vent to prevent formation of crankcase sludge.

If the filter is clogged and restricts air flow, pressure in the crankcase is raised above normal. This may result in high oil consumption, oil leaks at the gasket surfaces of oil pan and block, or leaks at the seals.

Dodge Truck Warmup Delay

DELAYED ENGINE warmup in 361 or 413-cu in. Dodge truck engines could be due to an improperly installed intake manifold gasket, says Dodge. The trouble usually shows up as misfiring, stumbling or backfiring, particularly in cold weather.

As a rule, the gasket should have a directional arrow pointing to the front of the engine or the word "front" stamped on the front of the gasket.

To be properly installed, the $\frac{1}{8}$ -in. water bleed hole in the gasket should be on the right side of the engine.

Incorrect installation of the gasket restricts coolant flow through the intake manifold in warming up the base of the carburetor.

Spray Painting Truck Grilles

EXTREME CAUTION must be used when spraying paint around the grille area of trucks equipped with selenium rectifiers and an alternating current type generator. This warning comes from Don B. Wilson, asst. mgr., Motor Truck Division, Automobile Manufacturers Assn.

The rectifier portion of such an installation is usually mounted behind the grille in the air-stream. It can be shorted out by metallic paint overspray deposits.

Reclaimed Parts for Bus Fleets

PARTS RECLAMATION discussion produced a stock answer from bus fleet operators at the annual meeting of the American Transit Assn. General opinion was "fix it yourself" or send it out to be done—if the reclaimed part will cost 50 per cent or less of the price of a new one. Otherwise, buy a new part.

Exception seemed to be with fleets having a large investment in rebuilding equipment and tools—such as Bill Kunz has at Niagara Frontier Transit in Buffalo, N. Y. (Sept. '60, page 88).

Quality is a factor which prompts some others to go over the 50 per cent mark—where the reclaimed part may give longer life or better performance.

Carburetor Float Setting

IMPROPERLY SET carburetor float can cause poor overall engine performance. Champion Spark Plug Co. says it may cause spark plug overheating or fouling.

When the float setting is too low, spark plugs often overheat since the engine may be starved for fuel. Also, engine may not respond to acceleration and it may be difficult to maintain satisfactory carburetor adjustment.

If float level is too high, both spark plug fouling and oil dilution may result. This is because too much fuel enters the combustion chamber. Carburetor may also leak.

You can usually detect a high float setting by
(TURN TO PAGE 12, PLEASE)

hot tip for truck



AC SPARK PLUG ⚭ THE ELECTRONICS DIVISION OF GENERAL MOTORS

MAINTENANCE



Join the thousands of fleet maintenance men who get more power between established maintenance checks by installing AC Fire-Ring Spark Plugs. Their records support AC's truck-tough design that assures longer-lasting full power return from every truck engine. Set your sights on reduced operating costs! Be sure your maintenance procedures include a new set of ACs. They assure you constant power throughout the thousands of payload miles between checks.

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TEST . . . SEE
YOUR ARROW
JOBBER...YOU'LL
BE AMAZED!

ARROW
DESIGNS WITH THE FLEET IN MIND

TRUCKS



Continued from Page 9

checking the tips of the main discharge needles with engine idling. Dripping fuel or wet nozzle tips mean there's too much fuel in the bowl.

Causes of a high float level are:

- Wrong float setting.
- Leaky float.
- Dented float.
- Fuel inlet needle not seating properly.
- Needle seat improperly installed.
- Excessive fuel pump pressure.

Studebaker Truck Steering

REPORTS OF hard steering in 1960 Studebaker ½-ton trucks have been traced to improperly adjusted reach rods and wheel stops and incorrect front axle caster, says S-P.

To correct this condition, check and adjust as follows:

1. Place front wheels in straight-ahead position.
2. Disconnect reach rod at the Pitman arm.
3. Center steering gear on high spot.
4. Adjust reach rod so that ball stud of reach rod centers in Pitman arm hole without changing position of front wheels or steering gear assembly. Install reach rod in Pitman arm and tighten nut securely.
5. Turn front wheels to left, against wheel stop.
6. Check clearance between nearest point of tire to frame. It should be no less than 1 in., no more than 1¼ in. Also be sure that ball end of reach rod isn't "cramped" in the socket. You may have to loosen the clamp and reposition ball end.
7. Check caster of front axle. Change as needed to meet proper specifications.

Preventing Body Corrosion

PREVENTING CORROSION of truck body and cab still seems to be a matter of wise vehicle selection rather than a result of a PM program. A talk by C. O. Durbin of Chrysler's Electro Chemistry & Corrosion Dept. at the recent SAE National Transportation Meeting included the following check points . . .

- Ledges and horizontal flanges below floor level should be avoided. They trap and hold (TURN TO PAGE 16, PLEASE)

OUT OUR WAY

By J. R. Williams



MORE ORIGINAL AND RECAP MILEAGE AT LESS COST

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You can have your truck tire economy as simple as 1-2-3 with Lee Super DeLuxe Highway Nylons. These outstanding tires give you 1) long original mileage; 2) extra recaps; and 3) lowest possible cost per mile. The three big advantages that add up to sure savings.

Not just *nylon*, but Lee's exclusive Super-Tensile Nylon, goes into the construction of these tires. This tough cord provides the ultimate protection against the impact bruises, blowouts and moisture damage that take their toll of tires built with ordinary cord. Produced by a special process, Lee Super-Tensile Nylon reduces the effects of heat and flexing; makes cord separation virtually impossible.

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So why not specify Lee Super DeLuxe Highway Nylons, tube or tubeless, for all your units. They give you the greatest assurance of long original mileage and maximum recaps. And when it comes to retreading, you can't do better than to specify Lee Premium Black Diamond Tread Rubber, branded for your protection.

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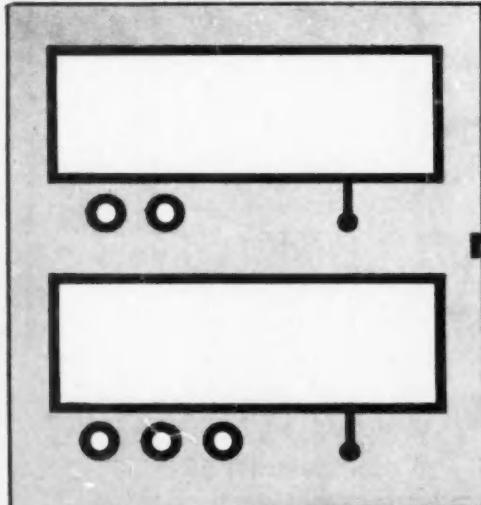


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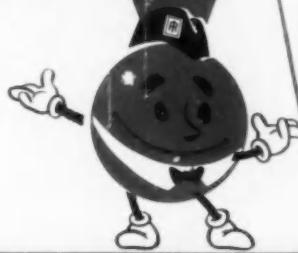
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WEIGHS ONLY 11 1/8 LBS.

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AND
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- 142% Faster Rundown . . . nuts go on faster . . . less time in getting the job rolling.
- 2 1/16" Shorter Length gets at more jobs in tight places.
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- Heat-Treated Steel Hammer Case will take a lot of punishment and still stay on the job.

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Safety...**

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Rated...
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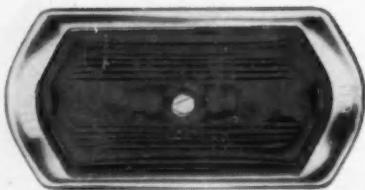


3 New DIETZ Clearance-Marker Lights

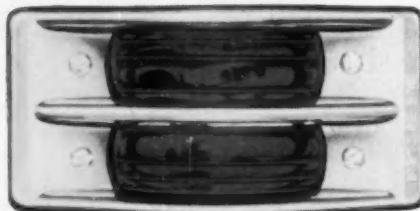
Extra safety and longer service are built into three bright new Dietz Clearance-Marker Lights. Two Triple-Life bulbs designed to deliver 1500 hours of service, three times longer than normal. Two bulbs provide wider safety margin — if one burns out, the other stays lit.



#59 CLEARANCE-MARKER LIGHT. Optically improved acrylic lens with 5-bullseyes delivers more power and light spread.



#60 CLEARANCE-MARKER LIGHT. Five bullseyes with one on each end of fadeproof acrylic lens provides 180° visibility.



#96 ALUMINUM ARMORED MARKER LIGHT. Heavy-duty, armored cast aluminum with Velvaglaze finish. Center bar protects and separates 1-piece lens into separate chambers for maximum light from each bulb.

WRITE for complete details or free sample of light interesting you



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OF LIGHT NO. _____

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Title _____

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More details? Circle 134 on reply card inside back cover

BODIES

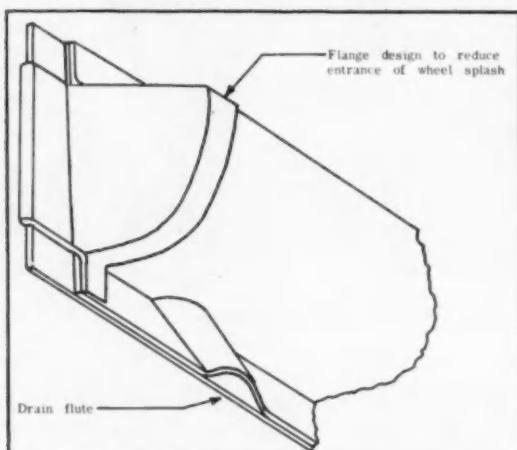


Continued from Page 12

wheel splash. Required flanges should be narrow, face away from the nearest wheel if possible. They should be accessible for priming and painting.

- Box sections or enclosed channels below the floor should be avoided. Inspection of such areas is all but impossible and application of protective coatings is at best difficult.

- Door sills and rocker panels should be shaped to prevent or reduce entrance of wheel splash. Front and rear caps should be sealed or flanges lapped away from direction of wheel splash, as shown here. Drain flutes should slope



toward the rear to cut-down plugging due to splash impact from front wheels.

- Outer door panels should be straight, with no curve at bottom. Inner panel should curve at bottom to join the straight outer panel. A slotted opening along the bottom curve of inner panel will permit proper drainage, prevent inside corrosion of outer door panel.

- All other enclosed surfaces subject to rain or wheel splash should have either fluted or slotted drain openings. Included here is the space between body inner and outer panels for sliding doors.

- Lap joints in line with wheel splash should be flanged to prevent water and road salt and dirt being driven between the surfaces.

- Where more than one panel is required to form the body undersurface, the rear panel should lap over the front panel. This helps keep moisture out of the joint.

- Protective exterior primers should be used on internal surfaces of doors, sills and sliding door cavities.

(TURN TO PAGE 20, PLEASE)



A man well worth knowing— Your DITZLER Representative *He can often save you important time and money*

- **DITZLER does more** than provide you with high-quality products for all your refinishing needs. We offer you the assistance of a field staff with practical refinishing experience.

- Your DITZLER representative has the knowledge that enables him to recommend materials and painting methods best suited to your type of operation. He can specify materials that decrease labor costs without sacrificing quality. He can offer advice as well as provide finishes for use on special metal surfaces.

- His practical know-how makes him competent to recommend proper arrangements of paint-shop facilities that improve their effi-

ciency. Moreover, his experience is backed by highly skilled engineering assistance to aid him in analyzing and working out your painting problems satisfactorily.

- Make use of this plus service. You'll find your DITZLER representative well worth knowing. His recommendations often can save you time and money.

Ditzler Color Division, Pittsburgh Plate Glass Company
Detroit 4, Michigan • Torrance, Cal.

DITZLER
P® PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS
IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED



They won the when they switched or how "The Biggest Difference in the

The diagram shows a cross-section of a tire tread. The top part is labeled "CROSS-RIB TREAD" and the bottom part is labeled "CONVENTIONAL TREAD". Below the diagram, the headline reads: "THE BIGGEST DIFFERENCE IS A BIG MILEAGE PLUS". The text explains that the thicker, tougher, nonskid tread of the Hi-Miler Cross-Rib (up to 60% deeper than conventional tires) is specially designed and compounded. This big difference can be measured in miles and miles of extra trouble-free service. But try Cross-Ribs, and let them prove themselves to your satisfaction!

HI-MILER CROSS-RIB—
long distance champion on drive wheels

TRACTION HI-MILER—
for long mileage, easy steering, precision balance on front wheels

TOP TEAM FOR BIG TRUCKS

"Our job is delivering full loads of empty bottles," writes Mr. J. Cross of Cross Transportation. "And delivering them on time is most important. Our customers, many of them handling perishables, depend on us to keep their production lines flowing.

"So believe me, we're delighted with Hi-Miler Cross-Ribs on our drive wheels. They're usually good for at least 100,000 'on-time' miles—without a problem. Then we just put them on the trailers and they still run and run."

"The tires we used previously gave only 40,000 to 50,000

miles—and had to be watched mighty carefully. We estimate the switch to Cross-Ribs cut our tire cost-per-mile more than 50%."

This report from a big fleet owner is typical of many received on the extra durability and dependability of Hi-Miler Cross-Ribs. Look at the diagram at left, above, and you'll easily see why.

The big difference you get in Cross-Ribs is typical of what you can expect from any truck tire in the complete Goodyear line. They give you long tire-life insurance in

GOOD

battle of the bottles to HI-MILER CROSS-RIBS

"Business" cut tire cost-per-mile by more than 50%



the form of the biggest, strongest beads plus the toughest bodies, made with exclusive Triple-Tempered 3-T Process Cord (Nylon or Rayon). And through use of advanced super-toughening agents, Goodyear tires run longer than competitive makes.

What's more, all Goodyear Truck Tires are better-built for today's smoother-riding trucks. Whatever the size or number of your trucks, you'll be miles ahead when you buy or specify Goodyear. See your Goodyear dealer or write: Goodyear, Truck Tire Dept., Akron 16, Ohio. Lots of good things come from Goodyear.



KEEP MILEAGE COSTS DOWN WITH GOODYEAR MILEAGE ENGINEERING SERVICE

New Goodyear service helps you get maximum benefit from long-wearing Goodyear Truck Tires. For example, the new Goodyear Cross-Rib/Rotation plan of tire scheduling enables you to make most effective use of Cross-Ribs—keep your trailer tire needs in balance. Provides new lows in capital investment and cost-per-mile. For information, write Goodyear, Truck Tire Dept., Akron 16, Ohio.

Hi-Miler—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

YEAR

MORE TONS ARE HAULED ON GOODYEAR TRUCK TIRES THAN ON ANY OTHER KIND

Introducing...

Oakite BRIGHTENER

**A NEW cleaner-brightener
that gives aluminum trucks,
trailers a "good-as-new" look**

Oakite BRIGHTENER . . . the NEW liquid-cleaner and brightener . . . is designed to restore quickly, easily that "good-as-new" look to your dirtiest trucks, trailers, buses and other hard-working aluminum transportation units.

In just one washing and with a minimum of brushing Oakite BRIGHTENER thoroughly removes even the heaviest grease deposits and caked on crud. It washes away aluminum-dulling traffic film, stains . . . banishes corrosion. Gives your transportation equipment an almost factory-fresh finish.

Easy To Use

Oakite BRIGHTENER is easy to apply. Just follow these three easy steps:

1. Hose down vehicle.
2. Brush or spray on solution of Oakite BRIGHTENER at room temperature.
3. Allow to soak, brush and rinse.

For an on-the-truck demonstration of Oakite BRIGHTENER contact your local Oakite man. For complete specifications and application details drop a line to Oakite Products, Inc., 52G Rector Street, New York 6, N. Y.



More details? Circle 137 on reply card inside back cover

FLEET CARS

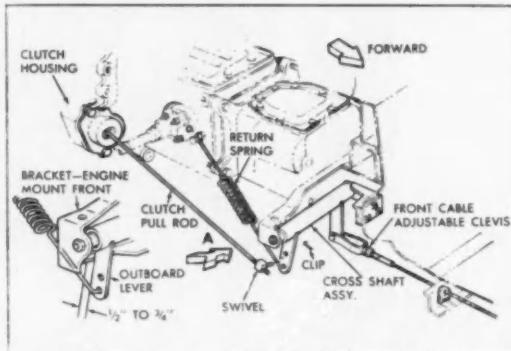


Continued from Page 16

Adjusting Corvair Clutch

SERVICE NEWS from Chevrolet says engine clutch linkage on 1961 Corvair passenger cars with 3- or 4-speed transmissions should be adjusted as follows:

1. Disengage clutch pull rod from cross shaft.
2. Adjust length of front control cable, at cross shaft clevis, to give $\frac{1}{2}$ to $\frac{3}{4}$ -in. spacing between cross shaft pull rod lever and edge of transmission mounting bracket (as shown).



3. With pull rod held forward to remove slack at the clutch fork, align rod swivel with upper hole in the cross shaft lever. Back-off swivel three complete turns and install pull rod assembly in upper hole of lever.

Tips from Cummins on Engine Knock

CUMMINS says they recently got a report on an engine that was disassembled to find the cause of a "knock." The trouble couldn't be found, so the piston pins were replaced. The knock disappeared but inspection of the old pins showed they weren't in need of replacement. Now, you're probably wondering just what did cause the knock.

In this case evidence of the trouble was destroyed because the engine was disassembled, without a part-by-part analysis. The best thing to do is check first for the simple causes of engine knocks. Here's a list of things Cummins suggests you check before and/or during engine disassembly:

- Poor quality fuel.
- Air leaks in fuel suction lines.
- Insufficient coolant.
- Loose engine-mounting bolts.
- Loose injector adjustments.
- Restrictions in fuel drain lines, injectors or drain orifices.

(TURN TO PAGE 24, PLEASE)

More details? Circle 138 on reply card inside back cover →

STUDEBAKER OFFERS AMERICA'S LOWEST PRICED 1/2-TON PICKUP



BEST TRUCK VALUE GIVES YOU BIGGEST PAYLOAD PERFORMANCE

New '61 Champ Saves with new "Spaceside"—extra wide body!

A giant 70 $\frac{3}{4}$ " wide to give up to 76 $\frac{1}{2}$ cu. ft. of load space! Its 2115 lb. payload is up to 1300 pounds larger than competitive pickups. Tailgates are sand and gravel tight. Saves because a 1/2-Ton Champ can do 3/4-Ton work. Both 6 $\frac{1}{2}$ ft. or 8 ft. lengths. Double wall Pickup box, Stake body and Platform also available.

New '61 Champ Saves with New OHV Six Engine! Cut gas bills 10% with Champ's new 110 HP OHV Six! Delivers a big 146 ft. lbs. of torque—plenty for off-road work. Or choice of 180 or 225 HP V8's for maximum power with true gas economy.

New '61 Champ Saves with Power-Matched Economy! Engine,

drive line, axles, brakes and body are engineered into a single super-efficient unit—Power-Matched. Choose either the 1/2 or 3/4-Ton Champ and you get all the work capacity of this fully specified truck—with the economy of a compact truckette.

New '61 Champ Saves You 10% to 20%! Priced \$65 to \$217 under five other 1/2-ton pickups—'61 Champ is the lowest priced 1/2-ton truck in America—*bar none!* You'll save up to 10% on gas. Save up to another 10% on lower maintenance, bigger loads, fewer trips. All this plus the most comfortable cab on the road. Exclusive full-width, slide-open rear cab window. See the work-proven '61 Champ at your Studebaker dealer soon—look smart, start saving big!

'61 POWER-MATCHED

Champ
Tougher than the Job!

BY STUDEBAKER

ENGINEER'S FIELD REPORT



Over-the-road fleet saves three cents per mile with RPM DELO Oil

OK Motor Service Inc. reduced their operating costs for its fleet of 24 highway tractors to only 9½¢ per mile—3 cents per mile less than average for trucking firms in the Chicago area. The reason: RPM DELO Lubricating Oil has extended engine life by 50 to 100% . . . lowered oil consumption and total operating costs.

"We've tried other products," reports Shop Superintendent A. T. Cosentino, ". . . but maintenance records prove RPM DELO Oil gives outstanding per-

formance at the lowest cost per mile.

"Our fleet now averages better than 350,000 miles between overhauls. The life of fuel injection pumps has increased 500% and oil consumption has been reduced from 5.4 to 2.1 qts. per thousand miles. These results add up to real savings."

This inter-state trucking firm operates in Illinois, Wisconsin, and Indiana on a 24-hour day, six days a week. Their Diamond-T and Mack tractors average 110,000 miles per year.

RPM DELO OIL reduces wear and prolongs engine life because it clings to parts whether the engine is running or idle . . . hot or cold. Piston rings stay free because an anti-oxidant fights gum and lacquer formation and a special detergent keeps parts clean. Other additives prevent corrosion of bearing metal and crankcase foaming.

Why not try RPM DELO Oil? Chances are it can cut your costs, lengthen equipment life. Just call your local representative or write any company listed below:



STANDARD OIL COMPANY OF CALIFORNIA, San Francisco 20 • **STANDARD OIL COMPANY OF TEXAS**, El Paso
CALIFORNIA OIL COMPANY, Perth Amboy, New Jersey • Denver, Colorado

TRADEMARK "RPM DELO" AND CHEVRON DESIGN REG. U.S. PAT. OFF.



"Yes, that shipment is right on schedule"



NEW VIKING T-BAR SUSPENSION SEAT
Here's the greatest advancement in truck seats since Bostrom introduced suspension seating. New torsion bar suspension system, built-in shock absorber and contour cushions remove fatigue from truck driving—boost driver morale and productivity.

This is a welcome report that's good for your business. It helps keep old customers—helps get new ones.

Of course, prompt deliveries depend on drivers—steady traveling, minimum delays. How do you help to keep them on schedule?

One big help is to provide them with Bostrom Viking T-BAR* Suspension Seats. This way you take jolts, jars, vibration and *fatigue* out of truck driving. Drivers can travel longer, steadier—without prolonged rest stops or delays. For example, a team of drivers on a 500-mile run changed driving at least three times on other seats—now, on Viking T-BAR Seats, they say they need not change at all. This kind of driving—plus this kind of driver attitude—does pay off!

Equip your new trucks with the new Viking T-BAR Suspension Seat—and re-equip your older trucks, too. Viking T-BAR Seats are available from your truck dealer or parts distributor.

*Trade-Mark

BOSTROM CORPORATION
133 West Oregon Street • Milwaukee 4, Wisconsin

SERVICE FOR YOUR B&D TOOLS



50th YEAR

Black & Decker



QUALITY TOOL SERVICE

More details? Circle 141 on reply card inside back cover

Improve Your Shop Efficiency with NEW Cummins Approved DIESEL TRAINING COURSES

Course 101 - PRINCIPLES, MAINTENANCE AND REPAIR
OF CUMMINS DIESEL ENGINES

Course 201 - CUMMINS ENGINE UNIT REBUILDING

The more your service organization knows about Cummins the more productive and efficient it becomes in servicing all types of diesel engines. Interstate's Cummins-approved home study courses were prepared to improve productivity, skills and attitudes of your mechanics. The courses lower time cost of breaking in new men... help you operate a more efficient and profit-producing shop. Courses make Cummins factory training more meaningful. They are available to your experienced as well as beginning personnel.

WRITE FOR COMPLETE INFORMATION TODAY.

INTERSTATE TRAINING SERVICE, Portland 12, Oregon 53A
Send me complete information about CUMMINS-APPROVED
DIESEL TRAINING PROGRAMS. I am interested in group,
 personal enrollment.

Name _____

Company _____

Position _____

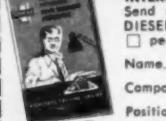
No. Employees _____

Address _____

City _____

Zone _____

State _____



ENGINES



Continued from Page 20

- Wrong injector in one or more cylinders.
- Valve crosshead out of position.
- Loose valve-seat inserts.
- Excessive end play of accessory drive.
- Plugged oil line to air compressor accessory drive.
- Excessive unbalance of load between cylinders.
- Eroded injector orifices.
- Broken injector-cup gaskets.
- Water leaks from cracked heads, liners, injector sleeves.
- Loose camshaft gear.
- Engine overloaded.
- Faulty vibration damper.
- Loose or unbalanced flywheel.
- Broken piston rings.
- Incorrect bearing clearances or bearings damaged.
- Broken tooth in gear train.
- Worn or scored liners or pistons.
- Amplified echo of minor noises due to enclosure.

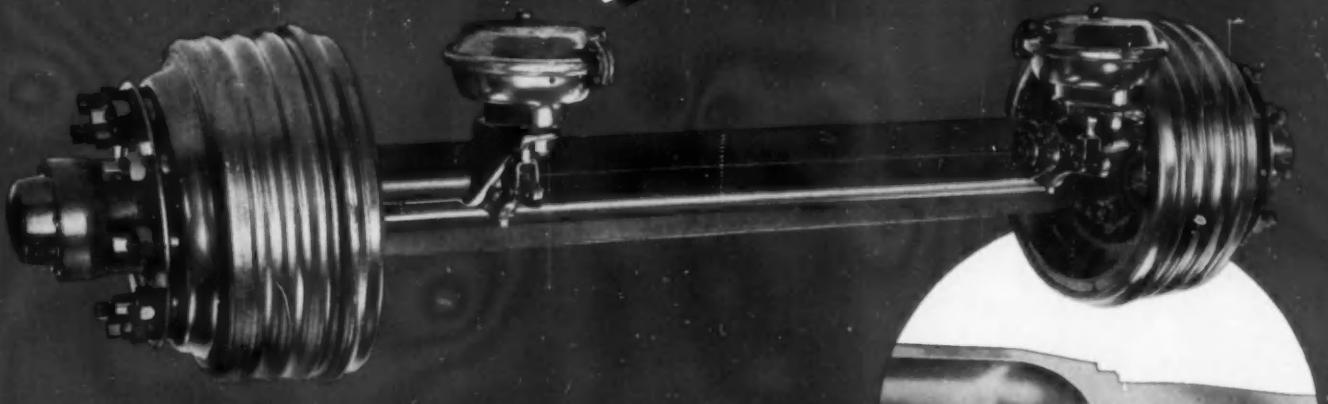
Note: You should always remember during troubleshooting to check the simple things first. You may save a great deal on labor, parts and downtime.



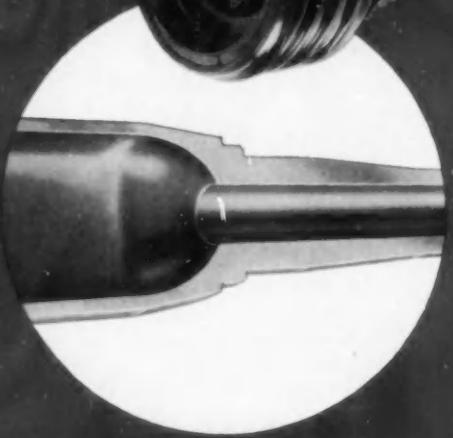
"Watch your spellin' in your gripe sheets—I think I've got us a publisher!"

Now!—the world's lightest-weight axle is

SHULER!



New engineering concept
saves many pounds, without
sacrificing strength!



PERIODICALLY since 1915, Shuler has pioneered many new weight-saving techniques in the manufacture of trailer axles.

Now Shuler has done it again, with the astonishing new Shuler 20L axle—a *major breakthrough* in weight-saving design.

The new Shuler 20L is the ultimate in modern engineering, the last possible word under existing design potentials. It em-

bodies a new, specially-designed steel as well as new manufacturing methods. It weighs 40 pounds less than our T18C (20,000 pound capacity) tubular axle which it replaces. It is the world's lightest-weight trailer axle, and it is offered at the same price as the T18C.

We urge you to investigate this brilliant achievement.

SHULER AXLE COMPANY

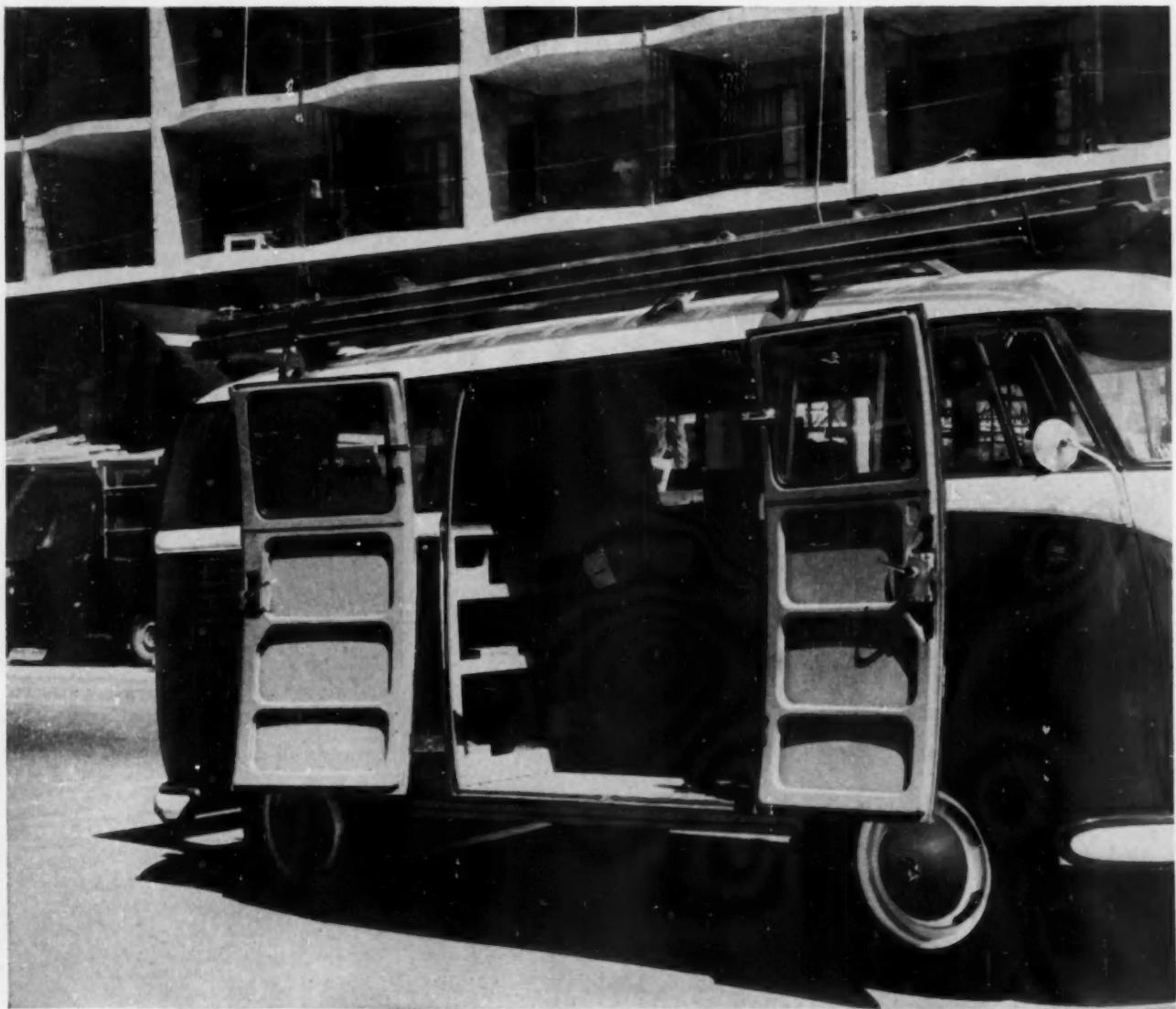
Incorporated

2900 Second Street, LOUISVILLE 8, KENTUCKY



Subsidiary of Eaton Manufacturing Company

SALES OFFICES: CHICAGO, DETROIT, PHILADELPHIA, OAKLAND AND TULSA • WEST COAST WAREHOUSE, OAKLAND, CALIFORNIA



JACK OF ALL TRADES! With two removable seats out, the Kombi is a cargo carrier with a 1,786-pound capacity. With the two seats in, it carries 9 people. With but one seat removed, it carries 6 people and 1,336 pounds of cargo. Special interior modifi-

cations make Volkswagen trucks ideal for the Hawaiian Telephone Company's work. Suggested retail price (East Coast Port of Entry) for the standard Kombi Station Wagon, without seats, is \$1,995; (West Coast Port of Entry suggested price is \$2,115).

Hawaiian Telephone Company answers

Travels 444,602 miles for 4.76¢ a mile!

Davis E. Adler, Services and Supplies Manager of the Hawaiian Telephone Company, spells out why his company is so pleased with Volkswagen performance.

"We started with one VW in 1957 and have kept a critical eye on costs and performance ever since then. Results were so satisfactory that we now have a fleet of 91 Volkswagens in all—39 Volkswagen Pick-up Trucks and 52 Kombi Station Wagons." Mr. Adler

showed us the following performance record:

COST SUMMARY—91 VW TRUCKS

Miles traveled	444,602
Gallons of gas	24,898.3
Miles per gallon	17.86
Total operating cost*	\$21,163.06
Cost per mile*	\$0.0476

*Excluding taxes, insurance and depreciation.



© 1961 Volkswagen of America, Inc.



WORKSHOP ON WHEELS! A place for everything—in this modified VW Pick-up Truck. Note, for example, the tools and gear in the two side lockers. The standard VW Pick-up has a 23-cubic foot weather-tight locker under the flat bed. It's lockable so that you can keep equipment safe. The standard VW Pick-up has a payload capacity of 1,764 pounds. Suggested retail price (East Coast Port of Entry) is \$1,885; (West Coast) \$1,995.



52 INSTALLERS! Hawaiian Telephone uses 52 Kombi Station Wagons as installers. Wide double doors make loading and unloading equipment an easy matter. Easy maneuverability and modest parking requirements are a great advantage—and especially in downtown Honolulu where many calls are made.

the call with 91 Volkswagens

Mr. Adler summarized their experience by saying, "We not only save money on the initial investment, but we continue to save in day-in, day-out operation."

Hawaiian Telephone's experience with VW is repeated over and over again by fleets in the other 49 states. All told there are now more than 110,000 Volkswagen Trucks in the United States. Volkswagen is the advanced truck idea that has been proven on the road for the past 11 years.

Are you ready for a VW Truck? You are if you

want a truck that costs less to buy, less to operate, and less to service. To help you make the right decision, talk to your Authorized Volkswagen Dealer soon. Ask for a demonstration. And get your free copy of the 60-page illustrated booklet—"The Owner's Viewpoint." It documents with facts and figures VW Truck performance and owner experiences in a wide variety of businesses. It shows what *you* can expect to get from Volkswagen, too. Why not pick it up today?





MARCH

- 16-19—Colorado Motor Carriers Assn., Annual Convention, Broadmoor Hotel, Colorado Springs, Colo.
21-23—National Assn. of Fleet Administrators, Annual Conference, Sheraton-Cadillac Hotel, Detroit.
22-24—Assn. of Highway Officials, North Atlantic States, Annual Meeting, Hotel Traymore, Atlantic City, N. J.

APRIL

- 1-9—International Automobile Show, Coliseum, New York City.
6-7—New England Bus Assn., Annual Spring Meeting, Schine Inn, Chicopee, Mass.
8-12—Petroleum Equipment Suppliers Assn., Annual Meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.
9-12—Western Highway Institute, Annual Membership Meeting, Arizona Biltmore Hotel, Phoenix, Ariz.
10-12—American Transit Assn., Western Regional Meeting, Pioneer Hotel, Tucson, Ariz.
10-21—American Welding Society and International Institute of Welding, Annual Convention & Exposition, Commodore Hotel (AWS) Sheraton-Atlantic Hotel (IIW), Coliseum (Show), New York City.
11-13—American Society of Lubrication Engineers, Annual Meeting, Bellevue-Stratford Hotel, Philadelphia.
11-14—Middle Atlantic Regional Automotive Show, Exhibition Hall, Philadelphia.
12-15—California Moving & Storage Assn., Annual Convention, Riviera Hotel, Palm Springs, Cal.
13—Michigan Safety Conference, Lansing, Mich.

13-15—National Truck, Trailer & Equipment Show, Automotive Council of Los Angeles, Great Western Exhibit Center, Los Angeles, Cal.

18-20—American Transit Assn., Midwestern Regional Meeting, Conrad Hilton Hotel, Chicago.

20-22—Alabama Trucking Assn., Annual Convention, Buena Vista Hotel, Biloxi, Miss.

21-22—Pennsylvania Motor Truck Assn., Annual Meeting, Bellevue-Stratford Hotel, Philadelphia.

23-26—Customer Relations Council, American Trucking Assns., Spring Meeting, Shoreham Hotel, Washington, D. C.

27-30—Georgia Motor Trucking Assn., Annual Convention, Jekyll Island, Ga.

30-May 2—National Tank Truck Carriers, Annual Convention, Netherland-Hilton Hotel, Cincinnati, Ohio.

30-May 2—Operations Council, American Trucking Assns., Meeting, Atlanta, Ga.

MAJOR EVENTS LATER IN '61

Sept. 11-15—Society of Automotive Engineers, National Transportation Meeting, Milwaukee Auditorium, Milwaukee, Wis.

Sept. 20-22—National Assn. of Motor Bus Owners, Annual Convention, Drake Hotel, Chicago.

Oct. 1-5—Truck Body & Equipment Assn., Annual Convention, Sherman Hotel, Chicago.

Oct. 8-13—American Trucking Assns., Annual Convention, Statler & Mayflower Hotel, Washington, D. C.

Oct. 15-18—American Transit Assn., Annual Meeting, Dallas, Texas.

MAY

4-6—Wyoming Trucking Assn., Annual Convention, Cody, Wyo.

9-11—The Materials Handling Institute, Eastern States Show, Trade & Convention Center, Philadelphia.

10-12—Airline Ground Transportation Assn., Annual Convention, Fontainbleau Hotel, Miami, Fla.

11-13—New Jersey Motor Truck Assn., Annual Convention, Shelbourne Hotel, Atlantic City, N. J.

14-16—Washington Motor Transport Assn., Annual Convention, Harrison Hot Springs, British Columbia.

17-19—Heavy-Specialized Carriers Conference, Annual Convention, Chase-Park Hotel, St. Louis, Mo.

18—Rhode Island Truck Owners Assn., 30th Anniversary & Annual Banquet, Sheraton-Biltmore Hotel, Providence, R. I.

22-24—Ohio Trucking Assn., Annual Convention, Neil House Hotel, Columbus, Ohio.

23-25—American Transit Assn., Annual Executive Conference, Greenbrier Hotel, White Sulphur Springs, Va.

25-26—Committee of 100, American Trucking Assns., Meeting, Chicago.

JUNE

4-9—Society of Automotive Engineers, Transportation & Maintenance Committee, Summer Meeting, Chase-Park Plaza, St. Louis, Mo.

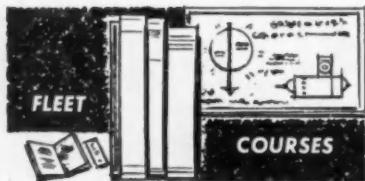
12-15—National Freight Claim Council, Spring Meeting, Sheraton-Dallas Hotel, Dallas, Texas.

21-22—American Trucking Assns., Executive Committee Meeting, ATA Building, Washington, D. C.

25-29—National Accounting & Finance Council, Annual Meeting, Denver-Hilton Hotel, Denver, Colo.

28-30—International Truck, Trailer & Equipment Show, California Trucking Assn., Brooks Hall, San Francisco, Cal.

29-30—Private Truck Council, Summer Meeting, The Greenbrier, White Sulphur Springs, Va.



For addresses of sponsoring colleges, see page 308 of the November issue

FLEET SUPERVISOR

- University of Oklahoma—Mar. 21-23.
University of Maryland—Apr. 10-14.
University of Washington—May 1-5.
Northeastern University—May 8-12.
Florida State Dept. of Education, Miami—May 15-19.
Northwestern University—June 12-16.
Penn State University—Sept. 11-15.

Ontario Safety League, Toronto — Sept. 18-22.

FLEET MAINTENANCE

University of Washington—Mar. 20-22.

Ontario Safety League, Toronto — Mar. 20-24.

North Carolina State College—Apr. 10-14.

Penn State University—Apr. 24-28.
Florida State Dept. of Education, Jacksonville—May 22-26.

DRIVER TRAINING

North Carolina State College (4-week courses)—Mar. 27-Apr. 21; Apr. 24-May 19; May 22-June 16; June 26-July 21; July 31-Aug. 25; Sept. 4-29; Oct. 2-27; Oct. 30-Nov. 24; Nov. 27-Dec. 22.

DRIVER TRAINER

Ontario Safety League, Toronto — Apr. 24-28.

Penn State University—Oct. 2-6.

TERMINAL MANAGEMENT

Penn State University—Apr. 10-14.

TRANSPORT MANAGEMENT

University of Washington—Mar. 20-22.

Purdue University—May 16-18.

ACCIDENT INVESTIGATION

Northwestern University — Oct. 23-Nov. 10.

LP GAS TRANSPORT

Purdue University—June 21-22.

Another user reports on the Thompson Retarder

"OUR THOMPSON RETARDERS PAY FOR THEMSELVES TWICE A YEAR IN BRAKE SAVINGS ALONE"

When Morrison-Knudsen, one of the nation's largest construction companies, faced a severe problem of hauling 30-ton loads of coal down a nine-mile grade that reaches 14% at some points, they called on the Thompson Retarder for help. And help it did, according to Warren Van Pool, master mechanic at M-K's Carbondale, Colo., operation.

"Each Thompson Retarder used on our trucks pays for itself more than twice each year just in savings on brake maintenance," he says. "Instead of relining brakes from four to six times a year we do it only once in nine to 12 months. Brakes themselves last a correspondingly longer period too."

But that's not all. Mr. Van Pool points out that each truck hauls daily almost twice as much coal as it could haul if it depended upon brakes alone for control. With the Thompson Retarder higher speeds can be maintained down grade and through the six 180-degree switchbacks with resultant savings in time.

If you want to save money through greater use of equipment and reduced maintenance costs, check into the new, lightweight Thompson Retarder now. Specify it on new equipment, or install it on present trucks.



"Our drivers are assured of cool brakes to meet any emergency," says Mr. Van Pool as he points to part of Thompson's dynamic braking system. Retarder-equipped trucks like this one have hauled thousands of tons of coal under extreme conditions without a brake failure. For details on the new Thompson Retarder write Dept. CC-3:



AUTOMOTIVE DIVISIONS



THOMPSON PRODUCTS MICHIGAN DIVISION

Thompson Ramo Wooldridge Inc. • 34201 Van Dyke Ave.
Warren, Michigan

THOMPSON PRODUCTS
LIGHT METALS
DIVISION

THOMPSON PRODUCTS
MICHIGAN DIVISION

THOMPSON PRODUCTS
VALVE DIVISION

THOMPSON PRODUCTS
RAMCO DIVISION

THOMPSON PRODUCTS
MOTOR EQUIPMENT
MANUFACTURING DIVISION

More details? Circle 145 on reply card inside back cover

4 Big Reasons Why ASF SAFETY 5th WHEELS

Outlast... Outperform All Others

In millions of miles over America's highways, ASF Safety 5th Wheels have established a record for dependability and incredibly low maintenance costs. A typical comment: "Not one has failed us in over 15 million miles, and maintenance has been reduced to the occasional use of a shim!"

The reasons are few and simple, but very important—the ASF 5th Wheel is made out of cast steel with all parts interlocking. This design reduces wear to an absolute minimum. Wearing parts are easily accessible. Should any part need to be replaced, this is easily done by removing three bolts.

The result is a 5th wheel that shows no more wear at 500,000 miles than others show at 100,000. Why not save the difference? See your nearest ASF distributor for more facts, or write American Steel Foundries, East Chicago, Indiana.

5 to 1



Make an investment in Economy... Efficiency... Safety

with



safety 5th wheels

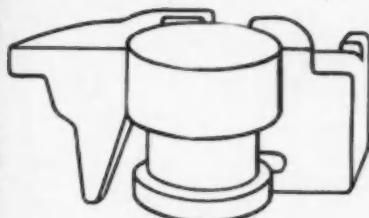
A PRODUCT OF

AMERICAN STEEL FOUNDRIES

More details? Circle 146 on reply card inside back cover

1

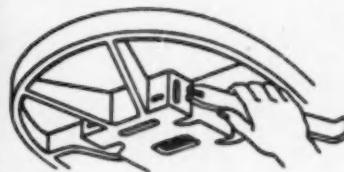
LARGEST KING-PIN BEARING AREA OF ANY 5th WHEEL



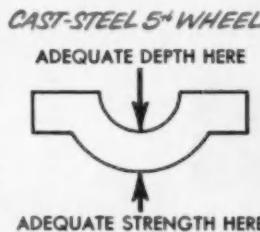
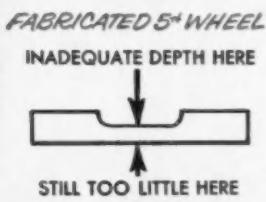
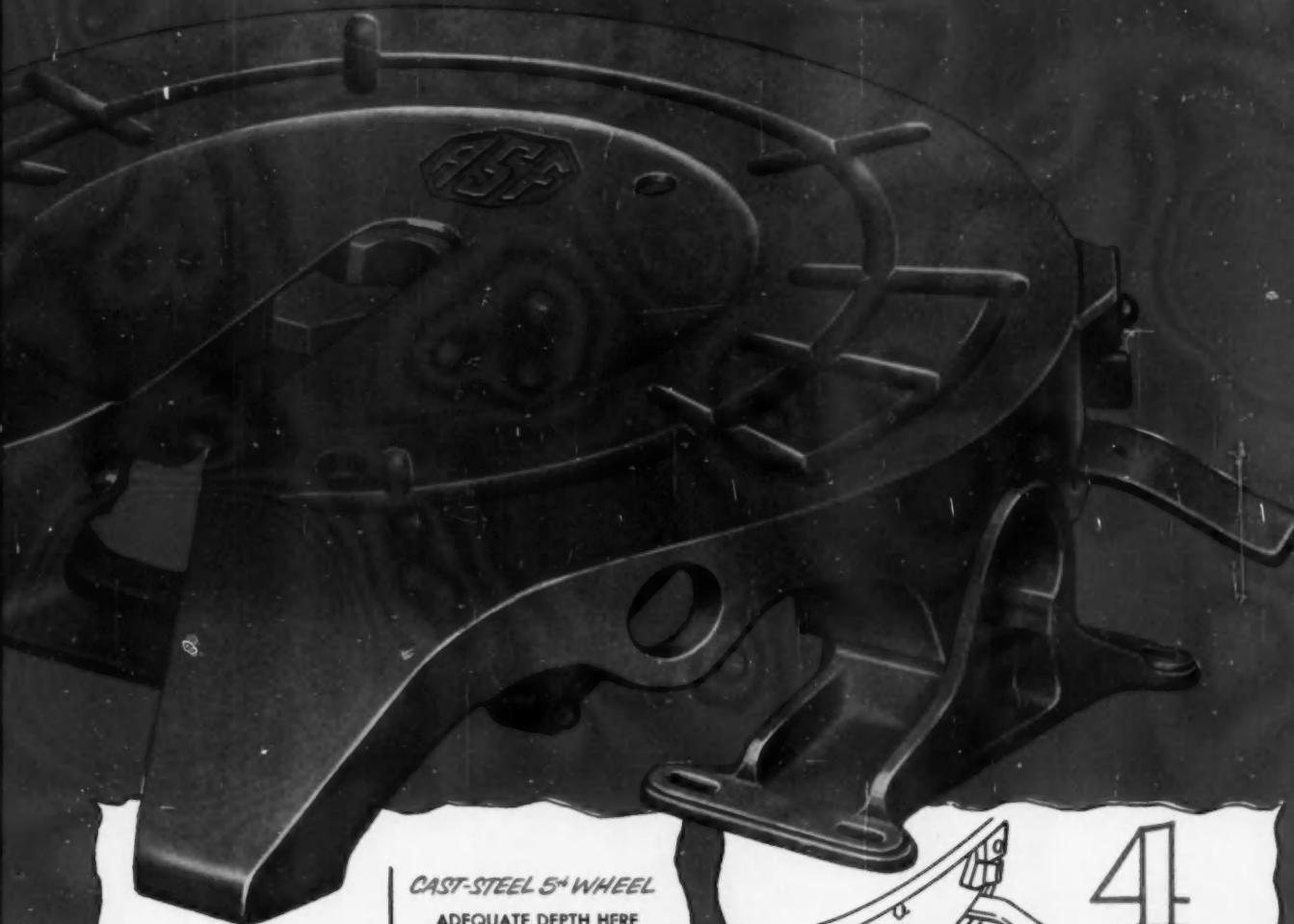
Note the exceptionally large bearing area and the greatly reduced bending leverage which result in longer life for the ASF jaws and your king-pins.

2

SIMPLE SHIMMING COMPENSATES FOR WEAR



No rebuilding to keep jaws slack-free. A simple, inexpensive shim is easily inserted in a matter of minutes, and your unit is ready for the highway.



3

ADEQUATE GREASE CAPACITY

Not only do you get far better lubrication with ASF cast steel construction; the plate also offers maximum bearing surface. Result: less pounds' pressure per square inch, less wear, and easier steering.



4

26 SQUARE INCHES OF BRACKET BEARING AREA

Tractor pull and trailer weight are carried on 26 square inches of trunnion area, instead of pins, eliminating difficulties of the usual pin-type bracket design. The plate casting is designed around the bracket 180°, assuring a straight-line pull.

There's No Substitute For EXPERIENCE

OURS IS TIME-PROVED

LINCOLN WELDERS

MASSEY-FERGUSON • AUTOMATIC LIFT TRUCKS • CLARK LIFT TRUCKS • DUPLEX TRUCKS • CHEEKEE CARS • CATERPILLAR TRACTORS • CATERPILLAR TRACTORS • DIAMOND T TRUCKS • PALMER MARINE ENGINES

OLIVER FARM TRACTORS • OSHKOSH TRUCKS • ONAN GENERATORS • OWENS YACHTS • FOUR-WHEEL-DRIVE TRUCKS •

DIVCO TRUCKS

RED TRUCKS • MACK TRUCKS • GRAVELY TRACTORS • TOWMOTOR LIFT TRUCKS • GENERAL MOTORS TRUCKS • CHRYSLER MARINE ENGINES • FRANK HUGH TRUCKS • WAUKEEHA ENGINES

LEROI ENGINES • NEW SHOES • MINNEAPOLIS COUES • CONTINENTAL ENGINES • MISSOURI ENGINES • KOMEL GENERATORS • JOHN DEERE COMBINES • J. I. CASE TRACTORS • YALE & TOWNE TRUCKS •

ZENITH® has designed and
built carburetors for
more different types
of equipment
than any other
manufacturer.

Carburetors and
fuel filters for trucks,
tractors, buses, fire engines,
boats, stationary engines and off-the-
road equipment. Put our experience on
gasoline carburetors and LP Fuel Systems to
work on your problems. Write Zenith Carburetor
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READY POWER GENERATORS • SCHRAMM AIR COMPRESSORS • CHRIS-CRAFT ENGINES • FORD L-P GAS TRACTORS

GRAY MARINE ENGINES

ALLIS-CHALMERS

TEAR OUT AND SAVE

**2,000 POUNDS EXTRA PAYLOAD
MEANS \$2,000 EXTRA PROFIT!**

It's a documented fact (proved by actual scale weight comparisons) that these highway tractors can haul up to 2,000 pounds extra payload each trip.

Using the accepted standard of an extra dollar per year for every extra payload pound, you earn several thousand dollars more with new GMC aluminum tilt-cabs. All the proof is at your GMC Truck Dealer. Give him a call today.

**EARN
\$2,000
EXTRA
EVERY YEAR
WITH EVERY
48"
GMC
TILT-CAB!**

**IT'S EASY
PULL HERE
SEE WHY**

HAUL BIG AND LIGHT

TEAR OUT AND SAVE

2,000 POUNDS EXTRA PAYLOAD MEANS \$2,000 EXTRA PROFIT!

It's a documented fact (proved by actual scale weight comparisons) that these highway tractors can haul up to 2,000 pounds extra payload each trip. Using the accepted standard of an extra dollar per year for every extra payload pound, you earn several thousand dollars more with new GMC aluminum tilt-cabs. All the proof is at your GMC Truck Dealer. Give him a call today.

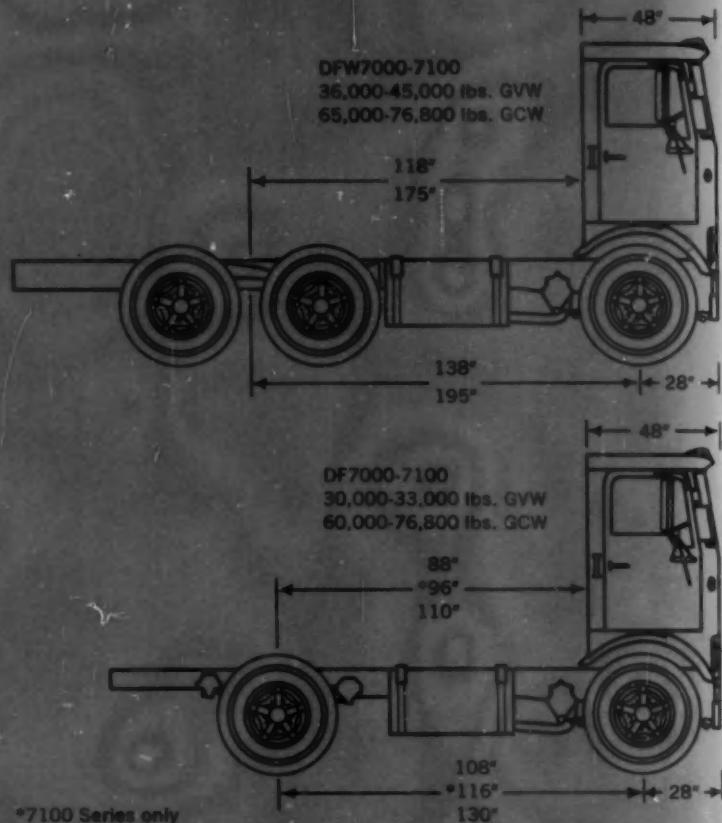
For the big, really-tough job and top power, you can't beat the GMC highway wheeler with 48" BBC. You get economy, strength, tyconstruction, the V-8 diesel engine, and profits high . . . open-top accessibility, and 100% accessibility with full side doors.

**48" BBC ALUMINUM TILT-CAB
V-8 DIESEL, ROAD-READY WEIGHT
SLEEPER CAB.**

HIGHEST LOADS EVERYWHERE WITH THE SHORTEST HEAVIEST-WEIGHT TILT-CAB TRACTORS EVER BUILT!

In jobs that demand top payloads you can't beat this DFW7100 Series 6-cylinder diesel performance to keep loads operating and upkeep costs low. And full tilt for close-up servicing.

ABOVE: DFW7100 SERIES WITH 260 HP. V-8
GWT IS ONLY 13,640 LBS. (WITHOUT



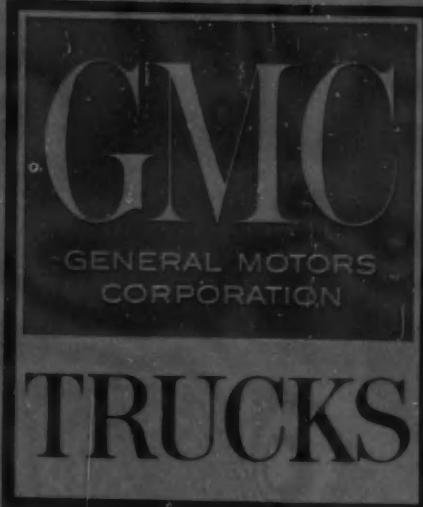
*7100 Series only

Here is a modern-concept highway tractor designed and built to haul the biggest legal loads at the least possible cost. Built lighter with all-aluminum cab and weight-saving features throughout. Built shorter, only 48 inches from front bumper to back of cab; and front axle location is just 28 inches.



ALUMINUM TILT-CAB GMC DF7000 SERIES WITH 218 HP
V-6 DIESEL. ROAD-READY WEIGHT IS ONLY 10,114 POUNDS

From $\frac{1}{2}$ -ton to 60-ton
General Motors leads the way!



FROM THE BIG GMC BREAKTHROUGH COMES

**THE TRUCK
TRIUMPH
OF THE 60's!**

EARN
\$2,000
EXTRA
EVERY YEAR
WITH EVERY
48"
GMC
TILT-CAB!

IT'S EASY
PULL HERE
SEE WHY

TEAR OUT AND SAVE

SET

TEAR OUT AND SAVE



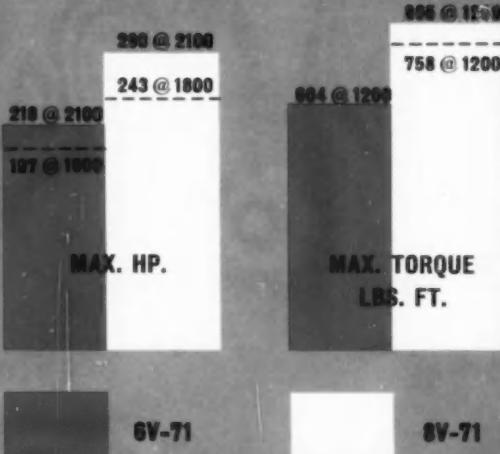
Roomiest, most-comfortable cab of all! Biggest comfort, safety and convenience dimensions combined with accurately positioned controls make this GMC a pleasure to drive. Entire cab is lined with special sponge rubber to completely insulate and seal cab walls and floor. Driver seat adjusts in every direction, steering column $1\frac{1}{2}$ ", for personalized satisfaction.



GET NEW PROFIT HIGHS WITH DIESELS!

MORE-RESPONSIVE, SMOOTHER GMC DIESEL POWER!

HIGH PERFORMANCE AT LOW, FUEL-SAVING,
WEAR-RESISTING ENGINE SPEEDS



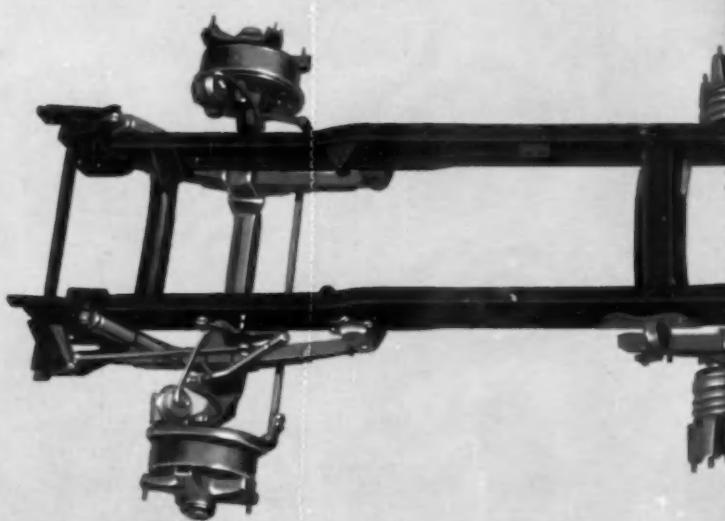
Power ratings shown are at sea level and 60°F.

GMC's modern, proved 2-cycle design gives you an even, steady flow of power, instant throttle response because every down stroke is a power stroke. You get more power per cubic inch displacement, more power per pound and more power per dollar for more profit on every mile of every trip. With simple, compact design there are fewer parts to get out of adjustment and fewer parts to service. And remember: every GMC Diesel Truck Dealer saves you downtime by stocking complete parts and having expertly trained mechanics —for both the engine and chassis.

- Roots-type blower clears out all exhaust gases and provides a high volume of clean air for more efficient combustion.
- Positively-sealed, dry-type cylinders are easy and fast to service.
- Exclusive hydraulic fan automatically saves fuel and power.
- Four exhaust valves per cylinder (not just 1 or 2) assure complete scavenging of burned gases and permit free breathing. Smoke-free exhaust, too.

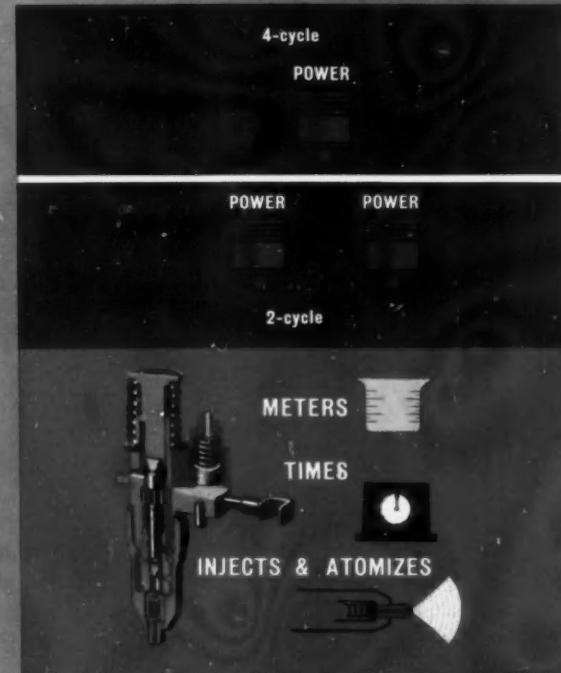
● Dependable, full-load support . . . proper chassis and cab alignment are yours with tough high tensile steel frames; high-strength, low-weight heat treated frames; upright L-type or channel-type frame reinforcements . . . everything to provide ample strength for all concentrated stresses and strains . . . in any truck use.

● Wide-track, reserve-strength front axles with 9,000 or 11,000 lbs. capacity. Short, easy turns and greater stability with 79 $\frac{1}{4}$ " tread and friction-free recirculating ball steering. Hydraulic power steering is optional.



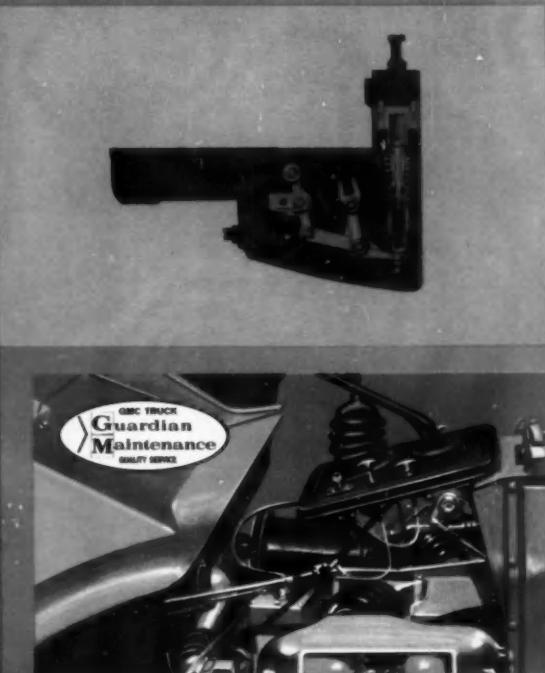
GMC V-6 AND V-8

No power lag, no wasted action with GMC's 2-cycle-design diesel engines. You get load-moving power on every down stroke of every cylinder, twice as many power impulses as in 4-cycle-design engines.

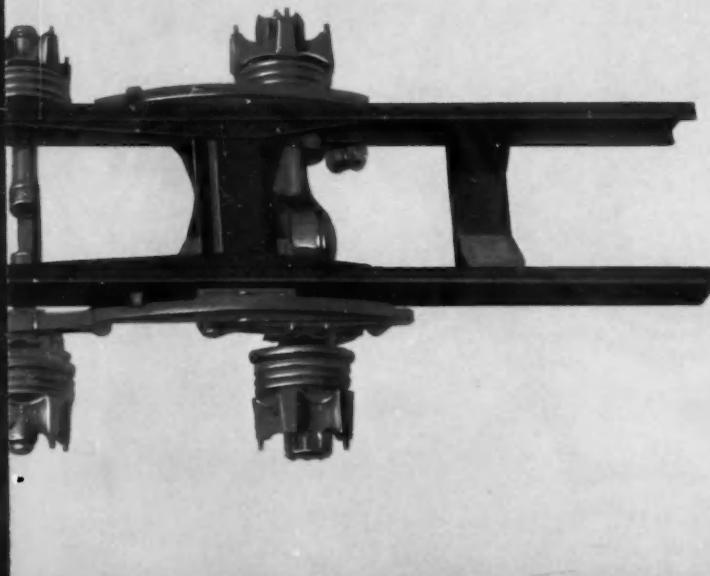


This one precision GMC unit does all this! Eliminates troublesome high pressure lines and complicated pumps. This practical, durable fuel system costs less to maintain, is easier to service, saves fuel.

Save wear, tear and fuel with this economy range governor that regulates engine rpm and road speed to the most productive range. Offered only on GMCS . . . and it's standard on single axle models with V-6 diesel.



Complete unobstructed engine access is quick and easy with the full-tilt cab. Controls are not disconnected. They are mounted on the stationary island for positive alignment at all times . . . operate smoothly and easily.



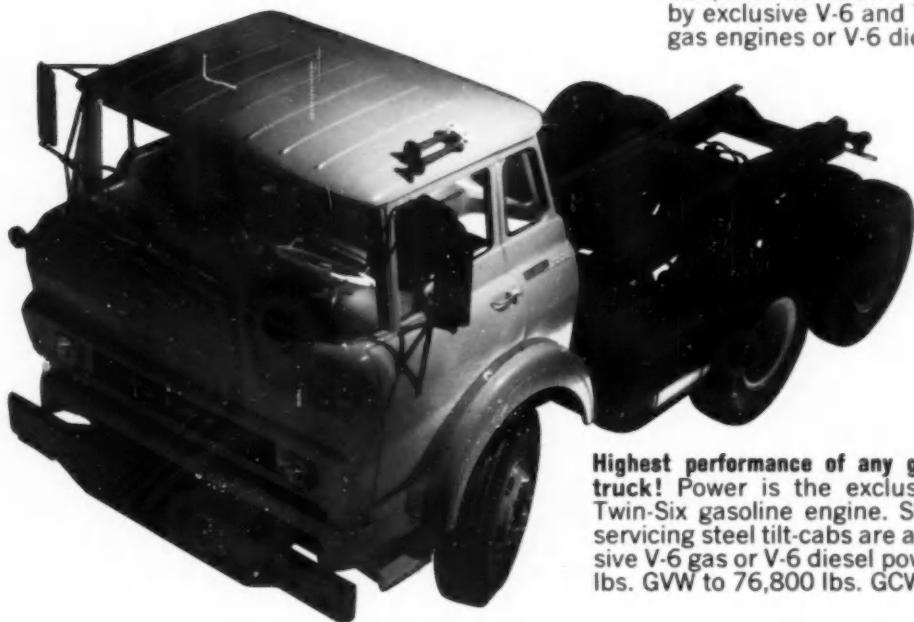
Save nearly 400 lbs. truck weight, with this pusher axle tandem. For additional traction and up to 4,000 lbs. more capacity, you can get tandem drive rear axles. All have 50% load on each axle at all times . . . are practically service and maintenance-free. Ask your GMC Dealer for complete facts on the advanced 48" six-wheelers.

Four-wheelers (with 48" BBC) have the 3" wide vari-rate springs that automatically adjust to the load. Built-in torque leaf transmits all braking and torque forces. Long-lasting, weight-saving springs only carry the load.

SELECT FROM THIS FULL RANGE OF FLEET-PROVED GMCs!



Haul 40-foot trailers within 50-foot over-all with GMC Conventional Ninety-Inchers. Full line from 19,500 lbs. GVW to 120,000 lbs. GCW. Powered by exclusive V-6 and Twin-Six gas engines or V-6 diesel.



Highest performance of any gas-powered tilt-cab truck! Power is the exclusive 275 hp. GMC Twin-Six gasoline engine. Short-turning, easy-servicing steel tilt-cabs are available with exclusive V-6 gas or V-6 diesel power, too . . . 19,500 lbs. GVW to 76,800 lbs. GCW.

Easier-handling, smoother-riding
GMC Conventions are also high performing with V-6 engines. Independent front suspension, coil or vari-rate rear springs* on 4-wheel models cost nothing extra . . . from $\frac{1}{2}$ -ton pickups to 60,000-lb. GCW six-wheelers.

*Except Models 2500 and 3000

TEAR OUT AND SAVE



Nearly 3000 GMC Dealers from coast-to-coast have full parts stock and expert service to cut downtime, save you dollars.



President Kennedy says trucks don't pay fair share, asks tax boost

End of last month, President Kennedy sent his highway message to Congress. In it, he asked for stiff increases in truck taxes. To keep highway building program from lagging, he sees need for \$900 million more a year in tax revenue. Noting that "passenger cars are paying more than their fair share," Kennedy says, "It is only fair" that most of the extra funds needed "come from the heavier trucks." But, he adds, even the increases asked for "would not charge heavy trucks their fair share of the cost" of the highway program.

Here's where \$900 million is to be found

To find the \$900 million, the President would extend the present "temporary" 1¢ per gal gasoline tax . . . on top of the 3¢ per gal tax. This is expected to produce \$600 million. Other \$300 million, Kennedy says, should come from boosting diesel fuel tax to 7¢ per gal (a 3¢ increase), drastically increasing federal weight tax on trucks over 26,000 lb GVW to \$5 per 1000 lb (a \$3.50 increase), increasing tax on tires, inner tubes and tread rubber to 10¢ a lb (up 2¢, 1¢ and 7¢ a lb, respectively). Alternative would be another ½¢ per gal tax on gasoline. He also asks that \$800 million a year from passenger car, parts & accessory excises scheduled to go for highways after the middle of this year be held for general funds.

Voluntary standards for frozen food handling are on the way

At press time, industry standards for frozen food handling were up for final OK by Frozen Foods All Industry Coordinating Committee (FFAICC). They were approved by ATA's Perishables Committee late in January. One big problem remains. Fleet operators and others handling frozen foods will have to convince legislators that *voluntary* compliance will work. Alternative is the rigid, no-tolerance code demanded by Assn. of Food and Drug Officials (AFDOUS) . . . designed to be enacted into law by state legislatures. *For background, see page 97.*

A set-back for Pennsylvania carriers—with national significance

United States Supreme Court last month reversed two lower court decisions which had resulted in an \$825,000 award to Pennsylvania Motor Truck Assn. Eastern railroads, 24 in all, had earlier been convicted of conspiring to destroy long-haul trucking in the northeast. Supreme Court in its unanimous decision said the railroads' lobbying efforts "appears to have been conducted along lines normally accepted in our political system. . . . Each group has deliberately deceived the

public and public officials." The case was dismissed because deception does not fall within the scope of the Sherman Anti-Trust Act. Possible recourse is for each fleet to prove loss due to deception. This could be a sticker. Earlier in the case, they agreed not to seek actual monetary damages. However, the possibility is being explored. Further actions will probably await outcome of the Riss vs. the railroads controversy.

Compulsory arbitration: ATA endorses Wisconsin proposal

American Trucking Assns. has endorsed principles of the Wisconsin Motor Carriers Assn. proposal for compulsory arbitration of labor disputes. The Wisconsin group asked ATA to "initiate legislation which will permit the federal government to appoint impartial panels to settle labor and management. . . ." They also asked "that such arbitration be compulsory upon both labor and management."

Tires, tire cord, anti-freeze, and glass . . .

Latest figures in the running Nylon-Tyrex tire carcass battle: Dr. George M. Sprowls, director of research for Tyrex, told Private Truck Council of America at Dallas that a South Texas fleet comparison test showed a tread wear advantage of 38 to 59 per cent for Tyrex. Donald H. Heckert of du Pont, however, stated that up to 80 per cent of all replacement truck tires will be made with nylon cord by 1963 . . . American Enka and Industrial Rayon have both boosted Tyrex cord prices. . . . Dow Chemical has extended the lifetime of Dowgard "Full-Fill" coolant to two years. . . . Automobile Manufacturers Assn. has endorsed use of tempered safety glass in side windows of cars. . . . General Tire & Rubber is marketing two-ply tires for use on compacts. . . United States Rubber has sold more than 350,000 two-ply passenger tires since 1958.

Three carrier groups join ICC's "war on gray areas"

Three organizations have brought complaints against 12 companies, 28 individuals and 137 shippers for violations of the Interstate Commerce Act. The ATA's Regular and Irregular Route Common Carrier Conferences and the National Motor Freight Traffic Assn. filed nine formal complaints charging illegal operations (1) as for-hire carriers without proper authority; (2) as brokers of motor transportation without licenses as required; (3) as freight forwarders without proper authority.

What's new in transportation services

REA Express has a new service claim—a 71-hour New York-Los Angeles railroad move of three types and sizes of containerized "Flexi-Van" loads pulled by a passenger train. . . . Air Express shipments broke all time records in 1960. Total shipments were up 5.6 per cent—6.53 million in 1960 compared with 6.19 million the year before. Gross revenues last year were slightly over \$50-million. . . Two groups are moving toward air/motor rates. Air Cargo, Inc., (a ground service company owned by the scheduled airlines) has developed a program for coordination of

In thousands of units, except bus sales are in actual numbers	New Truck Registrations				Truck Factory Sales—Domestic		Trailer and Trailer Chassis Shipments		Bus Factory Sales—Domestic		Truck and Bus Tires														
	Dec.		12 Months		Dec.		12 Months		Dec.		12 Months		Replacement Shipments		Original Equip. Shipments										
	1960	73.3	943.5	79.8	974.5	3.3	62.0	231	3878	562.0	9250.1	243.2	3885.3	1959	62.0	940.2	62.3	940.1	6.0	71.7	186	2206	738.7	10014.6	285.1	4417.2

Truck and bus production Truck tonnage

Make	Weeks Ending		Year to Date		% Change from Previous Week	% Change from a Year Ago
	Feb. 18	Feb. 11	1961	1960		
Chevrolet.....	5,658	5,665	40,908	75,530		
G. M. C.	1,270	1,354	8,930	17,065		
Diamond T.....	20	27	175	502		
Diveo.....	60	60	348	560		
Dodge and Fargo.....	1,379	1,290	8,300	13,224		
Ford.....	8,782	7,580	48,043	59,791		
F. W. D.	25	17	129	168		
International.....	2,583	2,833	17,247	20,400		
Mack.....	197	194	1,313	2,316		
Studebaker.....	131	214	771	1,200		
White.....	327	326	2,186	2,830		
Willys.....	2,711	2,588	13,092	17,776		
Other Trucks.....	70	70	490	706		
Total—Trucks.....	21,223	22,218	139,630	212,068		
Buses.....	40	45	435	628		
Total—Trucks and Buses.....	21,263	22,263	140,365	212,696		

Sources: Truck and bus data—Automobile Manufacturers Assn. Tonnage—American Trucking Assns. Registrations—R. L. Polk & Co. Trailers—Dept. of Commerce. Tires—Rubber Manufacturers Assn.

air and motor connecting carrier services. Air Cargo personnel will recommend motor carriers at air points for areas not served by planes. . . . National Motor Freight Traffic Assn., on the other hand, has begun a study of an air/motor rate conference.

Maintenance 'yardsticks' begin showing up in ATA-Budd study

The ATA Foundation ran its maintenance cost punch cards back through the data processing machines to find out if it matters where your maintenance work is done, if the size of your shop has an effect, or if a shop is more efficient as the size of the company increases. You'll find the answers and their meaning on page 115, this issue.

Rules are in the offing to curb movers' low estimates

ICC has ordered a rule-making proceeding intended to help the shipper when a mover's estimate of charges is "unduly low and misleading." Among other things, it will force movers to relinquish shipments upon payment of estimated charges—the remainder to come in 10 days. It would also require movers to notify shippers when estimate exceeds actual fee by 10 per cent, and notify shippers when goods will not arrive on time.

Safety, from many angles—ATA, U.S.C. of C., NCMFST

All commercial vehicles in interstate commerce should abide by the ICC safety regulations, says ATA. The stand results from last year's



A QUICK LOOK AT WHAT'S COMING TO HELP WITH YOUR ADVANCE FLEET PLANNING

U. S. District Court finding that the ICC has only limited power to issue safety rules for private carriers. Americans are going to have to develop a sixth sense—safety sense—if they are to remain alive, says Arthur H. Motley, President of the U. S. Chamber of Commerce. He adds, "What Kinsey and Marilyn Monroe have done for sex, we should be able to do for safety." National Committee for Motor Fleet Supervisor Training has set higher professional standards for the positions of "Director of Safety Supervisor," and "Driver Trainer."

Doyle Report and 210 Study: A continuing furor

Add these to the words voiced here last month about the Doyle Report: ATA says present policy is "fair to all forms of transportation . . . it has worked well . . . it has been extensively interpreted over a 20-year period . . . is now fairly well understood by the carriers and the Commission." ATA's Private Carrier Conference is ". . . gravely concerned with its recommendations regarding private motor carriage. . . ." About the "210 Study": Truck-Trailer Manufacturers Assn. urges Congress to take no "premature final action" until the AASHO Road Test results are available. Private Carrier Conference agrees, says "A vital section is missing. . . ."

Among the associations, several important meetings . . .

National Assn. of Fleet Administrators meeting in Detroit Mar. 21-23 will talk about passenger car fleet operations. . . . Western fleets will be interested in: the annual membership meeting of the Western Highway Institute in Phoenix, Ariz., April 9-12 . . . the annual National Truck, Trailer & Equipment Show in Los Angeles, April 13-15 . . . and the western regional meeting of American Transit Assn., Tucson, Ariz., April 10-12.

IN THIS ISSUE . . .

. . . you get the complete refrigeration picture—from regulations to some dramatically fast cooling methods—in a special 16-page report starting on page 97.

. . . you'll find out how the California Highway Patrol runs rather complete safety checks right on the highway. And you'll be interested in some of the safety equipment they use—it's portable and darn accurate (page 120).

. . . and if your fleet handles LP gas, you'll want to look into the safety program of Suburban Propane Gas, including their handy check-list (page 118).



there are new trucks (page 124), trailers (132), fleet cars (page 126)—and a special section on equipment for handling containerized and unitized cargo (page 130).



PIONEER
and LEADER

SAVE ACCIDENTS and
Physical Injuries — ELIMI-
NATE BACK BREAKING
CRANKING



COMPLETELY
CAB CONTROLLED

BARTLETT

"PIGGY BACK"

M-59

HYDRAULIC 5TH WHEEL

IF YOU OPERATE 25 or MORE TRAILERS ...
THIS SPOTTING 5TH WHEEL IS A MUST!
WILL PAY FOR ITSELF IN A VERY SHORT TIME.

LOCKS AUTOMATICALLY — UNLOCKS BY AIR.

INCLUDES FRAME RAILS ... HEAVY DUTY FIFTH WHEEL ...
POWER-TAKE-OFF AND CONTROLS. NOT A MAKE SHIFT
ASSEMBLY.

STURDIEST ASSEMBLY BUILT ... REINFORCED TO TAKE PUN-
ISHMENT.

SHIPPED COMPLETE — READY TO INSTALL ON TRUCK FRAME.

USERS include Truckers and Private Carriers from Coast to Coast,
Canada, Hawaii, Puerto Rico, Venezuela, Sweden and England.
Check with a user in your area on the Bartlett Quality and the
Savings Possible.

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MORE FLEETS USE BARTLETT 5TH WHEELS THAN ANY OTHER

COMMERCIAL CAR JOURNAL

CCJ BULLETIN BOARD



Soft-toed shoes for comfort's sake



Might well lead to a nasty break!

Reprints available at nominal cost—for details, circle 499 on reply card inside back cover

Hastings Piston Rings are

GENTLE ON CYLINDER WALLS



HERE'S WHY: Hastings Oil Rings have "wide open" spacers—the most ventilated in the entire industry—therefore deliver more oil to the cylinder walls. The narrow contacts of the steel rails assure positive oil control. Result: adequate lubrication, less wear, longer life for cylinder walls, pistons and rings.

Moreover, the Hastings "shell molding" process of making piston ring iron—a brand new, *different* process—gives you compression rings with more free graphite . . . and graphite is a metallic lubricant. It lubricates the cylinders and provides extra lubrication at the top, where the heat is greatest, and there's the least amount of oil.

This extra protection and longer life for cylinder walls and pistons is coupled with Hastings' established reputation for controlling oil—*completely*. You'll say goodbye to trouble and have long-lived, economical engine performance.

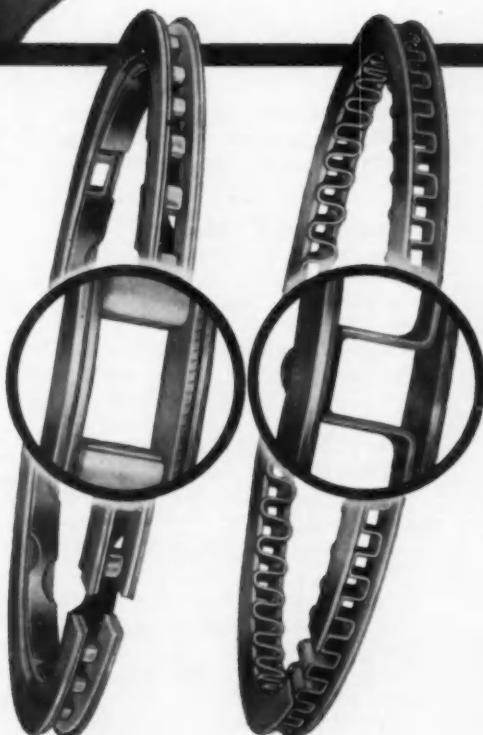
HASTINGS MANUFACTURING COMPANY • HASTINGS, MICHIGAN

Hastings Ltd., Toronto

Piston Rings, Oil Filters, Casite Additives, Spark Plugs


HASTINGS
PISTON RINGS

TOUGH on oil pumping • GENTLE on cylinder walls



steel-vent oil

flex-vent oil

In these typical Hastings oil rings, you can see for yourself the ample ventilation that provides efficient drain-back . . . prevents clogging . . . gives lasting oil control.

Hastings Aero-type Spark Plugs are engineered for replacement service in heavy-duty, industrial and extreme passenger car service. They operate over wider heat range, are less subject to fouling and electrode erosion.



Laugh it off

Slim 'n Greasy (our cheerful shop mechanic) says: "Men, don't worry because your hair starts falling out. Suppose it ached and you had to have it pulled . . . like your teeth!"

COJ

Wifey: "I'll bet when you stop at a roadside diner, you always flirt with the waitress."

Truck Driver: "I have to, dear. I always play for big steaks!"

COJ

1ST FREIGHT HANDLER: "WHY DOES SAM REMIND YOU OF A POKER PLAYER?"

2ND FREIGHT HANDLER: "JUST WATCH THE WAY HE SHUFFLES WHEN HE ROLLS THAT 4-WHEEL CART!"

COJ

Wolfish Truck Mechanic: "Gee, Honey, that's the eighth old-fashioned you've downed, and you're as alert as a radar screen! Don't you ever feel your liquor?"

Cautious Cutie: "Of course not! Why should I get my fingers wet?"

COJ

Reefer Driver: "What'll you have to drink, honey?"

Cuddlesome Cutie: "I guess I'll have champagne."

Reefer Driver: "Guess again!"

COJ

HE: "SAY, YOU LOOK A LOT THINNER!"

SHE: "I AM . . . YOU CAN EVEN COUNT MY RIBS."

HE: "GEE, THANKS!"

COJ

Shop Foreman: "Sam, what in the world happened to you? Your head's all cut and bleeding."

Shop Roustabout: "Oh, me and my girl had a big fight. I called her a two-bit broad, and she hit me over the head with a sack of quarters."

Weavin' Willie, the trucking industry's gift to the women, says: "Sometimes a man gets slapped because his hand is quicker than the 'aye.'"

COJ

Diesel Mechanic: "Everytime I look at my girl, I say, 'Oh boy!'" Shop Foreman: "You do?"

Mechanic: "Yes, darn it! I sure wish she looked more like a girl!"

COJ

Truck Dispatcher: "You're just the girl for me, darling. You know the saying, 'Gentlemen Prefer Blondes?'"

Sweet Patootie: "Yes, but darling, I'm not a blonde!"

Truck Dispatcher: "That's what I mean, sweetheart—I'm no gentleman."

COJ

MR. FIXIT (THE HANDYMAN): "I HEAR YOU HAVE SOMETHING HERE THAT DOESN'T WORK."

IDLE MECHANIC'S WIFE: "I SURE HAVE. HE'S IN THERE ON THE COUCH!"

COJ

Weavin' Willie, our City Delivery Driver, swears he saw this sign on a suburban truck stop: "Eat Here And Get Gas."

— "Cici Jay" —



"I will not pucker up!"

DINER WAITRESS: "BIG BOY, I'M TELLING YOU FOR THE LAST TIME THAT YOU CAN'T LOVE ME."

TANKER DRIVER: "AH, SWEET THING, I KNEW YOU'D WEAKEN EVENTUALLY."

COJ

Safety Sadie: "That new boy friend of mine is refreshingly romantic. Every time he speaks to me he starts, 'Fair Lady'."

Catty Cora: "I really do hate to disillusion you, honey, but . . . like heck he's romantic. He used to be a street-car conductor!"

COJ

Catty Cora says: "A party girl is one who believes that children should be seen and not had."

COJ

CITY DISPATCHER: "DO YOU MEAN TO STAND THERE AND SAY THAT THEY PUT HIM IN JAIL FOR SOMETHING HE DIDN'T DO?"

Dock Foreman: "Yeah, that's exactly what I mean . . . he didn't pay his income tax."

COJ

Maintenance Steno: "All you hear about these days is 'Hiram Heartache,' the guy that has the newspaper column of advice to the love-lorn."

Freight Claim Steno: "Yeah, and it makes me sick the way he's always telling girls they gotta curb their emotions. What's he mean, 'Curb your emotions'?"

Maintenance Steno: "Well, I'm not too sure what he does mean . . . but I'll bet 'curbing your emotions' doesn't mean 'parking by the roadside'."

COJ

Brake Mechanic: "DO YOU KNOW HOW TO MAKE A PEACH CORDIAL?"

Carburetor Specialist: "No. HOW DO YOU MAKE A PEACH CORDIAL?"

Brake Mechanic: "BUY HER A DRINK!"

Resume Work

INSTALL!

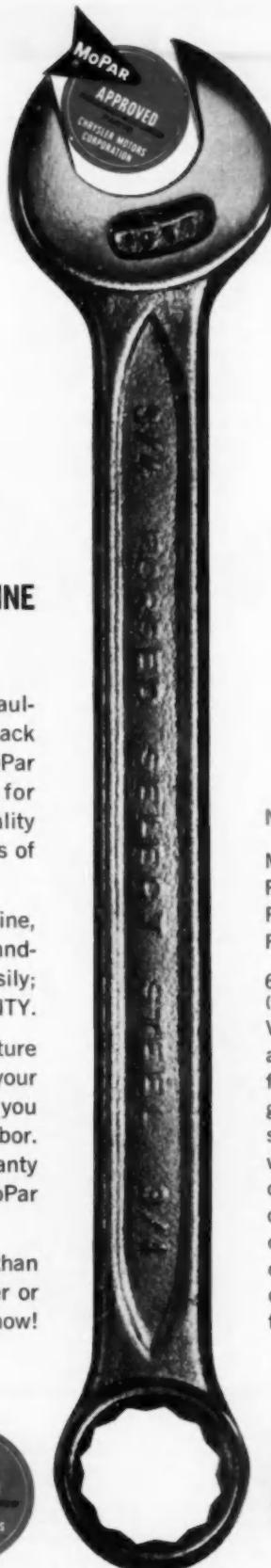
WITH COMPLETE CONFIDENCE.
USE THE MOPAR APPROVED LINE
OF REMANUFACTURED PARTS

Now you can cut down on costly overhauling. Now you can get your vehicles back in action—fast! You simply install MoPar Approved Remanufactured Parts for Chrysler-built vehicles . . . Rempar Quality Remanufactured Parts for other makes of vehicles.

Here's a new, COMPLETE, QUALITY line, remanufactured to meet exacting standards. Each part installs quickly, easily; is backed by a NATIONAL WARRANTY.

Now you can brighten your profit picture plenty! You slash down-time, reduce your repair space and shop facilities. And you need only a minimum of skilled labor. You're protected by a nation-wide warranty (4000 miles or 90 days) by the MoPar Approved Parts Remanufacturers.

Save time, save money! Install rather than overhaul! Call your MoPar Wholesaler or Chrysler Motors Corporation Dealer now!



NOW AVAILABLE:

MoPar Approved Remanufactured Parts for Chrysler-built vehicles,
Rempar Quality Remanufactured Parts for other makes of vehicles

6 and 8 cylinder engines
(short and complete)
V-8 cylinder heads
automatic transmissions
fuel pumps
generators and armatures
starters and armatures
voltage regulators
carburetors
clutch assemblies
crankshaft kits
oil pumps
connecting rods
torque convertors



MOPAR PARTS AND ACCESSORIES, CHRYSLER MOTORS CORPORATION, DETROIT 31, MICHIGAN



USE THESE PRODUCTS FOR THE BEST IN TIRE SERVICE



#880V Standard metal cap with the powerful sealing unit. Order service packages of 100 caps. (Special high heat-resistant caps also available.)



4

#4000V Regular
#7613TV
Extra high and
low temperature.

HOW TO MAKE GAUGING A PROFITABLE PRACTICE

1 Use genuine Schrader Gauges and be sure of the "health" of your tires. Catch flats before they happen on the road. Simply gauge all tires and compare pressures daily. Unreasonable pressure drops are danger signals.

2 Made certain all your gauges are accurate with Schrader's laboratory-type No. 630 gauge, for use only as a testing instrument. A protected, precision instrument exactly calibrated 0 to 160 lbs. will see that no inaccurate gauge is used on your valuable tires.

3 Install Schrader Chuck Gauges in all repair areas and save time and steps. Gauging, inflating, deflating...single push button control.

4 And don't forget to seal the air in. Stock genuine Schrader Caps and Cores for ready replacement. A "must" in every top fleet. Operate at top efficiency with an all-Schrader-Equipped shop. Your supplier has Schrader Air Chucks, Hoses, Valves and Accessories to make tire service run more smoothly. Specify them by name.

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Division of Scovill Manufacturing Co., Inc.

FIRST NAME IN TIRE VALVES

FOR ORIGINAL EQUIPMENT AND REPLACEMENT

Made in America to American Standards of Quality

Published in the
Interest of Safe
Transportation

Baird Bus and Truck News

Baird Dynamic Corp., 1700 Stratford Ave., Stratford, Conn.

Forecast:
Clear and Dry

REVOLUTIONARY NEW SURFACING FOR WORN BUS AND TRUCK STAIR TREADS PROVIDES MAXIMUM SAFETY FOR PASSENGERS AND DRIVERS

SP-10 Plastic Sealer Cures in Minutes, Sets Flexible and Firm



Plastic Sealer and Grip-Grit Combination Provides Non-Skid, Durable Surface

For use on worn stair well and aisle treads on all types of public and school busses. SP-10 cures in minutes and eliminates slippery "step" or "walk" areas where many accidents occur.

Baird spokesmen pointed out that SP-10 is also ideal for driver protection on chemical and petroleum trucks, refrigerated trailers and on all general types of trucks. It can be used on steps, stair wells, platforms and catwalks. It provides greater safety wherever drivers or loaders and helpers work.

Specially Prepared Abrasive Material Adds To Non-Slip Effectiveness of SP-10



Grip-Grit, when added to SP-10 Plastic Sealer provides a safe, long lasting, non-skid surface. The material is abrasive which consists of tough, elastic, multi-planed grains which resist wear and will not shatter or break. Developed and tested in Baird Dynamic's laboratories, Grip-Grit has been proven most effective.

Laboratory Tests Prove That SP-10 Is Non-Toxic, Fast, Safe To Use

Certain types of chemical materials, it has been demonstrated, irritate the hands and face when mixing, and have a toxic reaction on the person applying the material.

Exhaustive tests show this is not the case with new SP-10 Plastic Filler. It is simple, easy to apply and requires no special training on the part of the user.

Insurance Companies Impressed With Safety Features of SP-10

Insurance companies are reported to be taking a second look at the safety angles of new SP-10. It is said that the low-cost surfacing material might very well mean a reduction of accident insurance rates for various types of transportation lines.

Baird President Announces New, Important Development

Reports Introduction of SP-10, A New Flexible Plastic Sealer for Rebuilding and Repairing Worn and Dangerously Smooth Bus and Truck Stair Treads.

Mr. Brewer Lindberg, President of Baird Dynamic Corporation, manufacturers of FILLERite Plastic Paste for autobody repair, announced recently the introduction of SP-10, a new development in the miracle resin field. SP-10 consists of two component parts: SP-10 Plastic Sealer Resin, a medium-heavy liquid, and SP-10 Plastic Sealing Catalyst, a colorless liquid hardener. Mixed in proper proportions, SP-10 forms a tough, positive adhering, flexible surface practically impervious to wear, ex-

treme temperature changes and vibration. Addition of Grip-Grit, a specially prepared abrasive, provides safe, non-skid surface.



Connecticut Bus Company Sees Greater Passenger Safety And Easier Maintenance With New Tread Surfacing Material

Mr. Charles W. Schecher, Maintenance Superintendent for the Connecticut Company, States His Company Is Pleased With Extensive Test Results On New SP-10 Plastic Sealer

Mr. Schecher reports, "Now we can repair treads in minutes without tying up vehicles for days on end. We don't have to replace entire steps or rely on 'tacked-on' step coverings which rip or buckle. Smooth treads are covered quickly with SP-10, and the material wears like iron. The Grip-



Grit surface eliminates the danger of passengers slipping or falling, too."

Only Four Simple Steps Needed To Apply New Step Treads



Clean surface of worn stair tread and roughen surface to aid good bonding.



Mix SP-10 Liquid Hardener and Grip-Grit in suggested proportions. Apply by troweling or pouring.



After application and before SP-10 cures, sprinkle extra Grip-Grit on surface for longer wear.



The completed step tread—Inexpensive, tough, long wearing. Safe and good-looking!

Safety Clinics Planned To Demonstrate SP-10

Baird Dynamic has announced plans to hold a series of Safety Clinics in all important principal cities across the country within the next few months. Safety and Maintenance Engineers of all leading bus and truck operating organizations will be invited to attend meetings where SP-10 will be actually demonstrated by Baird Factory Representatives.

Interested persons are requested to write for the time and place of the Safety Clinic scheduled for their areas.

Sales Territories Open For Fleet Supply Houses

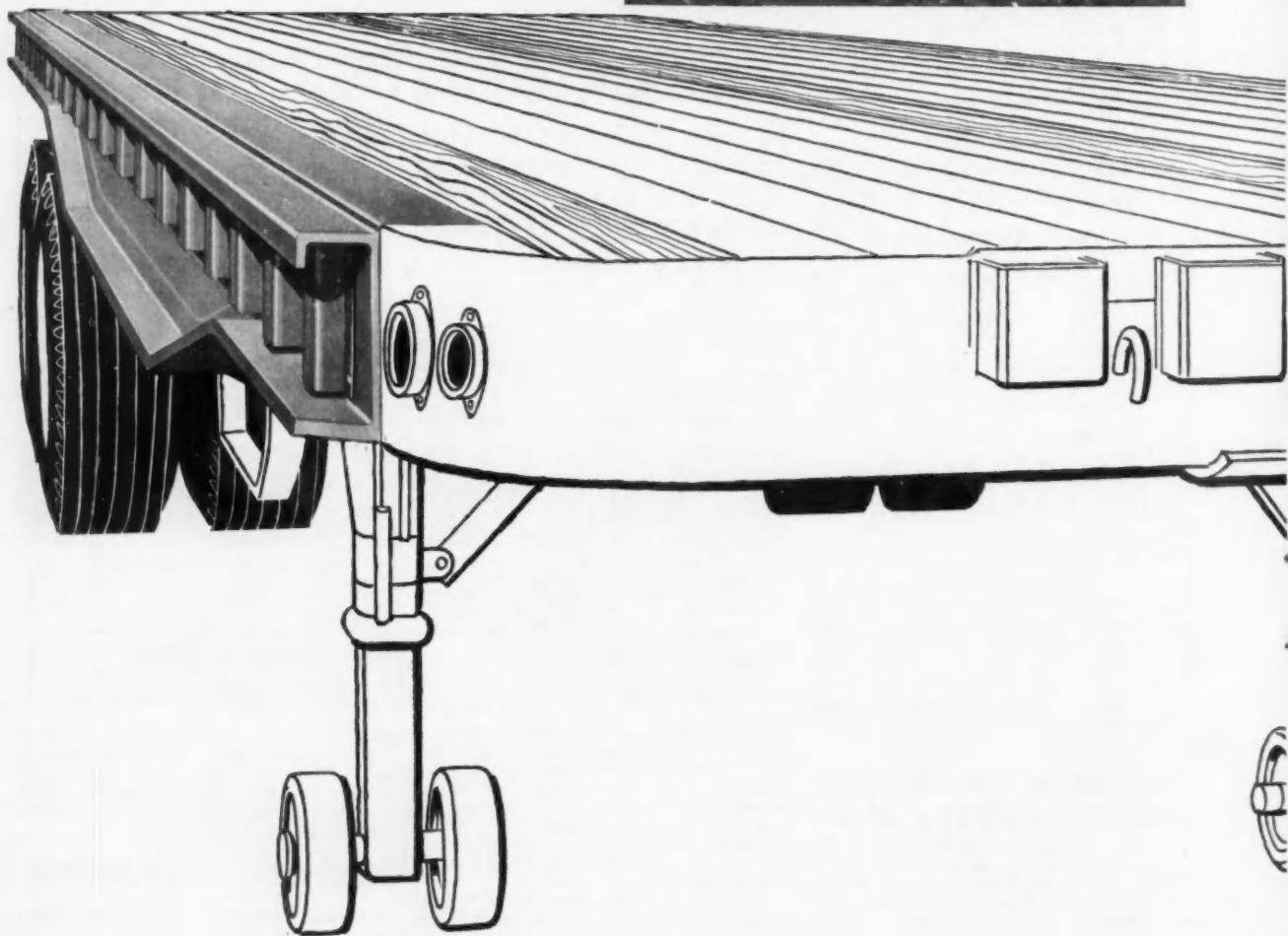
Supply houses specializing in selling to fleet operators, interested in appointment as an SP-10 distributor may write directly to the manufacturer for details: Baird Dynamic Corp., 1700 Stratford Avenue, Stratford, Connecticut.

Descriptive Literature Available

Write Baird Dynamic for complete literature on SP-10 Plastic Sealer.

Alcoa Aluminum Extrusions revolutionize flatbeds!

UP TO 2 TONS MORE PAYLOAD than conventional 40-footers!



A 40-ft flatbed trailer with extruded Alcoa® Aluminum structurals carries as much as 50,000 lb concentrated over its center 20 ft—yet weighs only 7,400 lb itself. Alcoa's design and development engineers worked with proved, high-strength alloys and new welding techniques to create a revolutionary maximum payload rig.

The three photographs below show the same basic design constructed of Alcoa Aluminum Plate and Extrusions by three different manufacturers. Any company with experience in producing large highway trailers could make it and offer it to customers at only a modest price differential over a similar unit built of steel. The increased payload should enable most operators to pay off that differential in a matter of months.



Versatility is designed into this new trailer, too. The load-carrying flange is $1\frac{1}{4}$ in. deep to accept any type of floor, offset to accommodate stake pockets. Rope or chain tie-downs are interchangeable. Other lightweight components include extruded aluminum flooring, aluminum fifth-wheel plate and eight Alcoa Aluminum Forged Disc Wheels.

Mating extrusions of high-strength Alcoa Alloy 2014-T6 form the structural side beams. Extruding actually increases this alloy's tensile strength by 20 per cent in thicknesses greater than $\frac{3}{4}$ in. At maximum 20-in. beam depth, these rails have a yield strength of 70,000 psi. Consumable electrode machine welding along the neutral axis provides shear strength of 29,500 psi—almost double that required for the most severe operating conditions.

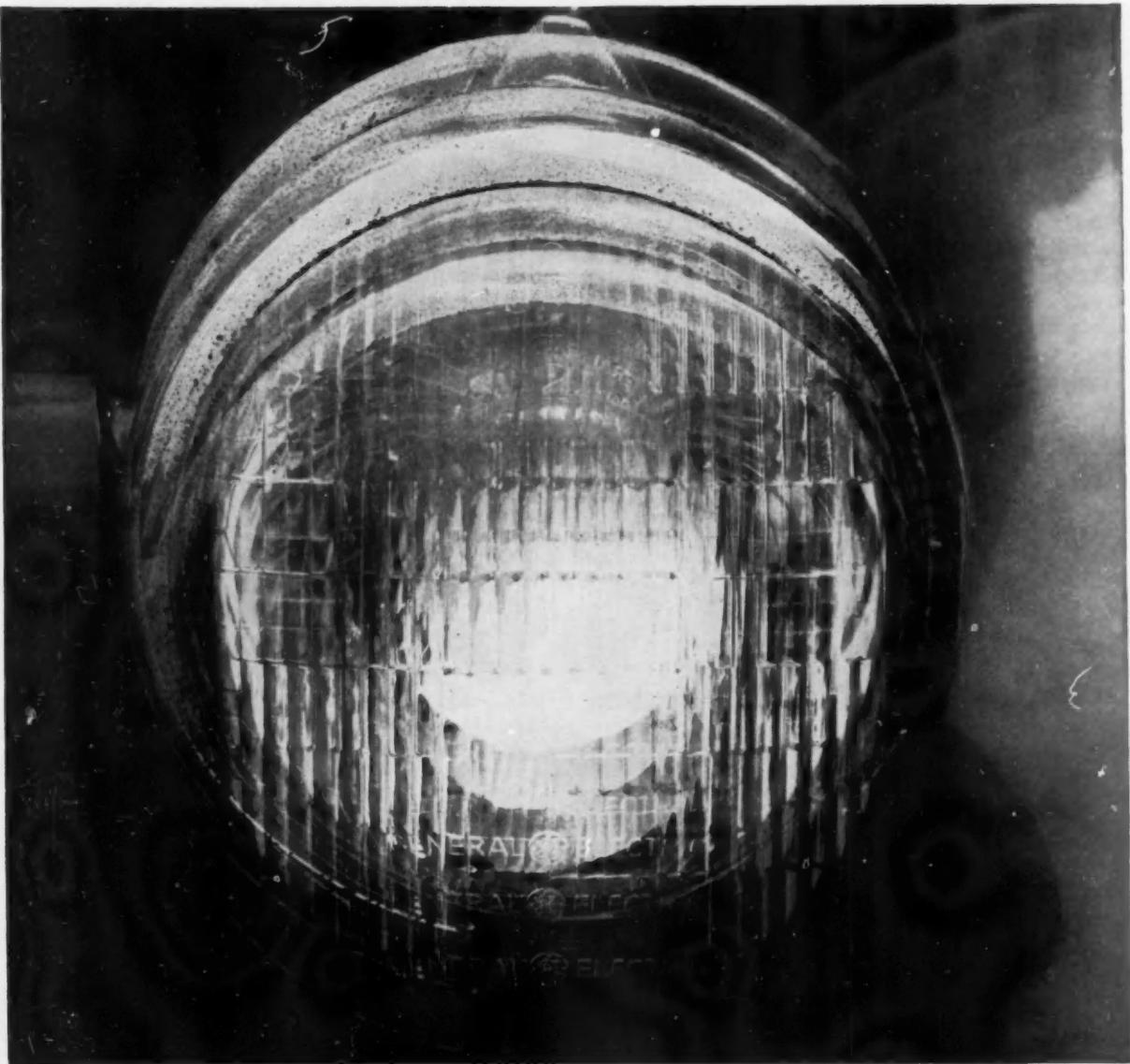


With identical safety factors, a 35-ft aluminum flatbed could carry 50,000 lb over its center 15 ft; a 32-footer over its center 12 ft. By reducing beam depth or changing the extruded shapes, even lighter construction is practical for smaller or more uniform loads. Alcoa Alloy 6062-T6 may be substituted in the frame rails for economy.

Progressive trailer and truck body builders look to Alcoa for new concepts in lightweight construction, and for mill products that meet the most stringent specifications. At your call are Alcoa's design and development engineers—specialists in aluminum applications for the transportation industry. Contact your local Alcoa sales office or write: Aluminum Company of America, 1785-C Alcoa Building, Pittsburgh 19, Pa.

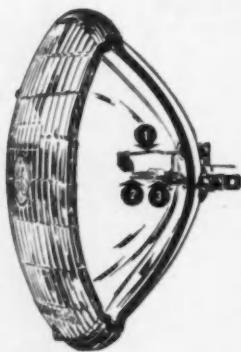


ALCOA ALUMINUM
ALUMINUM COMPANY OF AMERICA



TAKES SHOCK! New G-E Rough-Service Headlamps are built to take a beating and still give twice as much light where it's needed!

Here's why: New G-E rough-service headlamps (#6013 for 2-headlamp trucks, #4005 for the low beam of the new 4-headlamp trucks) have three special features that make them able to withstand rough treatment.



1. **SEPARATE ROD** holds the filament shield so the shield's vibration is not transmitted to filaments. Only G-E rough-service headlamps have this.
2. **LOW TEMPERATURE FILAMENTS** give greater mechanical strength and reduce lamp failures under rough road conditions.
3. **CERAMIC SHOCK ABSORBER** holds lead-in wires firmly, prevents them from moving independently. Thus, filaments and light beams resist distortion from shock or vibration.

And these lamps give *twice* as much light in the low beam down the right side of the road as any previous heavy-duty headlamp. General Electric Co., Miniature Lamp Dept. M-032, Nela Park, Cleveland 12, Ohio.

Progress Is Our Most Important Product

GENERAL  **ELECTRIC**

Commands the market



POPULAR JUNIOR ASSORTMENT
MASTER ASSORTMENT ALSO AVAILABLE



Whether you use, buy, or sell hose clamps, you can find no finer product than the Aero-Seal Jet because Aero-Seals set the standard of quality in the worm drive field.

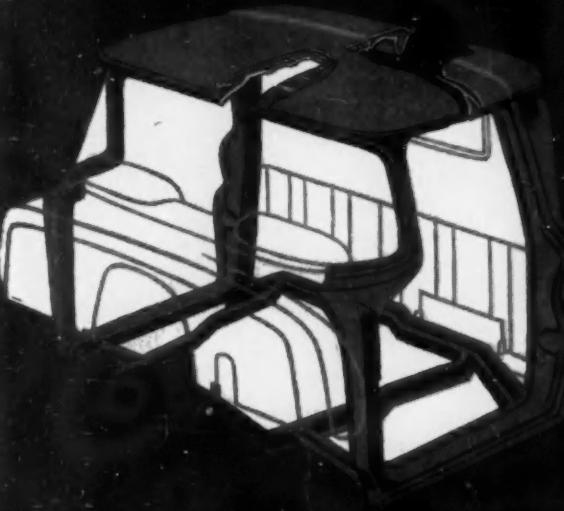
The improved Aero-Seal Jet is a patented design that not only provides all of the advantages—including the security—of a precision worm drive clamp, but in addition permits almost instantaneous installation or removal.

Aero-Seal Jets come in a complete range of diameter sizes from 7/16" to 15 feet. Bands and housings are of 302-18-8 stainless steel. All stainless also available.

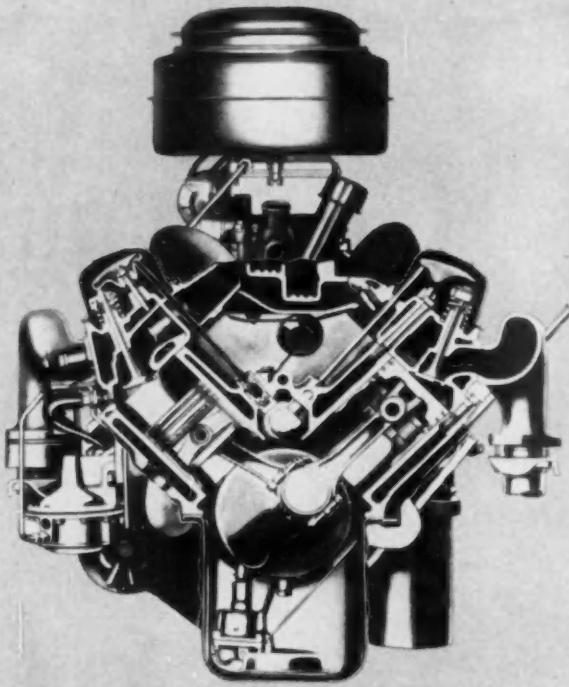


B R E E Z E C O R P O R A T I O N S , I N C .

700 Liberty Avenue, Union, New Jersey
Cable Address: Breeze, Union, N. J.



1 Extra strength where it counts gives Chevy cabs rock-solid rigidity to stay in shape years longer.



2 Chevy's powerful, efficient Taskmaster V8 combines big-truck might and muscle with top operating economy.



3 Independent Front Suspension with "walking wheel" action paves the way to bigger earnings with a smoother ride and reduced maintenance expense.

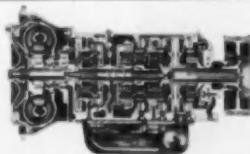
DEEP-DOWN DURABILITY SAVES YOUR DOLLARS IN 1961 CHEVROLET MEDIUM-DUTY TRUCKS

Here are Chevy components that add to tough-truck durability and earning ability; the *strong* reasons why a Chevrolet middleweight can take plenty of punishment—and keep on taking it. Here's why these rough-and-ready haulers squeeze bonus earnings out of tight budgets!

1 Take a look at the Chevy cab (pictured at left). It's built *solidly* to take any poundings your rough-and-tumble runs can throw its way; to stay in shape for years, lengthen effective truck working life and minimize maintenance expense. Notice the husky longitudinal sills that reinforce the cab underbody to reduce vibration and provide a solid foundation for cab sheet metal. Check the extra sturdy door openings with box-section pillars and sills to keep doors weather-tight and in lasting alignment. See how the husky box-section pillars support the rigid, double-walled roof panel for greater safety and maximum cab strength. (And this cab is just as *comfortable* as it is rugged!)

2 More evidence of Chevy's deep-down strength and toughness can be found beneath the hood. There you'll find the *261-cubic-inch Jobmaster 6*—a work-proved dollar-saver. Its sturdy components—forged steel crankshaft, high-alloy inlet valves, precision bearings, hard-faced exhaust valves with Rotocoils, all-weather electrical system and many more—are solid assurance of maximum efficiency and economy. Or the big *283-cubic-inch Taskmaster V8* illustrated at left (optional at extra cost) to supply plenty of torque to move maximum payloads with minimum strain or wear. Low maintenance costs stem from features like aluminumized high-alloy inlet valves, hard-faced exhaust valves with Rotocoils and Moraine 400 precision bearings.

3 Chevy's bump-beating Independent Front Suspension system provides still another reason for dollar-saving durability. Tough, friction-free torsion springs cushion the ride; ruggedly built control arms guide each wheel to give sure, stable handling; sturdy, custom-tailored shock absorbers further reduce road shock and offer maximum ride control. The result is a new kind of smooth truck ride that lengthens truck life; cuts wear and tear to reduce maintenance. These reasons for ruggedness go on and on to help reduce your costs. They're all the result of Chevy's *deep-down durability*. See your dealer about it soon. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.



CHEVROLET POWERMATIC, developed especially for big truck duty, provides fully automatic driving ease for all Series 60 and 60-H models (optional at extra cost). With six forward speeds in four driving ranges, plus torque converter action for getting under way and cushioning drive-line shifting shocks, Powermatic adjusts automatically to load and road conditions.

1961 CHEVROLET STURDI-BILT TRUCKS



More details? Circle 111 on reply card inside back cover

"American Brakeblok lining is safer, gives longer service!"

... reports Carl Konrad
Director of Maintenance
Snyder Brothers Motor Freight, Inc.
Akron, Ohio



"American Brakeblok lining is a real salesman!" says Carl Konrad, Director of Maintenance, Snyder Brothers Motor Freight, Inc., Akron, Ohio. "Its durability, long life, and elimination of brake fade are the main reasons why we have been American Brakeblok users since 1943.

"Our drivers are completely satisfied with American Brakeblok lining. When 'men of the highway' approve a lining we know it's the best! Furthermore, our service records show that American Brakeblok lining is one of our best investments."

American Brakeblok is the *quality* heavy-duty brake lining for trucks and trailers. Riveted, bonded, thick blocks. Your NAPA jobber has it . . . wherever you are!



P. O. BOX 21 • BIRMINGHAM, MICH.

*American
Brakeblok®*

AMERICAN BRAKEBLOK



**PROBLEM: Salt, tar, mud, grease on road equipment
SOLUTION: Steam cleaning with Hyppressure Jenny®**

Maintenance men on the nation's big toll roads, like the New York Thruway, handle many difficult chores with a Hyppressure Jenny. They find that steam cleaning with a Hyppressure Jenny keeps trucks, autos, snow plows and other vehicles ready for dispatch . . . free from damaging rock salt deposits, tar, grease and grime. It also cleans them in a hurry for repainting. *Your* problems, too, have solutions in the wide range of Hyppressure Jenny models . . . from the



"750" Series, which delivers 80 gph at 40 to 100 pounds working pressure (and sells for as little as \$498), to the "3500" models with 360 gph and pressures up to 300 pounds and temperatures up to 325° F. Plus many models in between. To find out which Jenny is best for you, mail coupon.

Please send me full information on the many models of Hyppressure Jenny Steam Cleaners.

Name. _____ Title. _____

Company. _____

Address. _____

City. _____ Zone. _____ State. _____

HOMESTEAD VALVE MANUFACTURING COMPANY
Hyppressure Jenny Division—Ceresopolis, Pa.

(In Canada: Hyppressure Jenny Sales & Service, Ltd.,
517 Jarvis St., Toronto 5, Ont. C.S.A. approved)

h v

**INSTALL DELCO-REMY
IGNITION PARTS
TO KEEP FLEET
PERFORMANCE UP,
MAINTENANCE
COSTS DOWN!**



Properly functioning ignition systems in your fleet vehicles can do a lot to cut down-time and keep fleet operations profitable. Regularly scheduled inspections of units can stop emergencies before they start. The distributor, for example, is one of the most important units in the ignition system. Preventive maintenance procedures that regularly search for and replace worn ignition components help insure the dependability of the fleet operation.

For dependable service replace with reliable Delco-Remy parts. They are the *quality* ignition service parts designed for hard working fleet vehicles. They're ready to install and make ignition systems perform like new.

- 1** DELCO-REMY DISTRIBUTOR CAPS are designed and built of highly dielectric, shock and heat resistant materials, and feature voltage-saving internal ribs.
- 2** DELCO-REMY CONTACT SETS are factory-adjusted and aligned for quick, easy installation. Heat-sealed, moisture-proof packages protect contact sets against dirt and oxidation.
- 3** DELCO-REMY ROTORS combine maximum strength with minimum weight and superior balance to assure smooth rotation at slow or turnpike speeds.
- 4** DELCO-REMY CONDENSERS assure correct electrical capacity and resist voltage breakdown. Hermetic seal keeps out harmful moisture, oil, and vapors.

Delco-Remy electrical parts are available at car or truck dealers, or through the United Motors System.

Delco-Remy electrical systems

FROM THE HIGHWAY TO THE STARS



DELCO-REMY • DIVISION OF GENERAL MOTORS • ANDERSON, INDIANA

Save on multi-stop routes with new '61 FORD PARCELS

SAVE ON BODY INSTALLATION...IT'S SIMPLER WITH A FORD WINDSHIELD-FRONT-END OR STRIPPED-CHASSIS

Fleet operators requiring units with "special" delivery bodies are finding that the combination of a Ford Parcel Delivery chassis and a customized body from one of the industry's major body manufacturers is one of the best ways to beat rising costs.

The Ford Parcel Delivery line for 1961 brings more and bigger savings to a greater number of operations with a complete range of models from 5,000-lb. to 15,000-lb. GVW. Ford's new P-100 stripped-chassis model makes an excellent economy unit for lightweight, bulky, stop-go loads. For longer routes and heavier payloads, the P-350, 400 and 500 Series with windshield-front-end or stripped-chassis models are recommended. Ford also offers larger models in the P-600 Series (available on special order) for GVW's up to 18,500 lb.

Ford's P-Series models with windshield-front-end have a mounting flange at the top which makes it easy to attach a custom body roof. They also include a straight door pillar to facilitate door fitting. All controls and instruments are located within easy reach and view of driver, and tilt-forward seat provides generous aisle space.

Most of the leading parcel delivery body manufacturers also offer custom bodies designed specifically for Ford's stripped-chassis units. Available in six different wheelbases, these chassis models come with a complete package of electrical instruments, controls and equipment which further simplifies the body installation. Your Ford Dealer will gladly work with any equipment manufacturer to help you meet your parcel delivery needs.



P-100 Available as chassis only; 96- and 102-in. wheelbase for bodies with 6 to 9 ft. load length. Cubic capacity: approx. 300 cu. ft. GVW 5,000 lb.



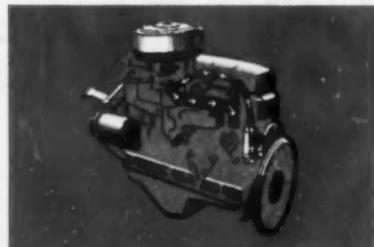
**SAVE WITH
HD CRUISE-O-MATIC**

Optional on P-350 through P-500 models, this transmission automatically provides correct application of power for all driving conditions and helps cut maintenance costs. Saves time and effort, too—gives the right "go" for every driving range.



**SAVE WITH
ECONOMY CARBURETOR**

Ford now offers an optional carburetor for the standard 223 Six engine that gives greatly improved gasoline mileage for stop-go operations. This economy carburetor reduces fuel consumption at idle speeds and still provides proper fuel mixtures for good acceleration.



**SAVE WITH POSITIVE
CRANKCASE VENTILATION**

Positive Crankcase Ventilation, standard on both the 223 Six and 292 V-8, is designed to provide proper ventilation whether vehicle is standing or moving. It cuts engine corrosion and oil contamination for greater engine durability and extended oil life.

EXTRA-VALUE FORD PARCEL CHASSIS FEATURES

- **HYDRAULIC ACTUATED CLUTCH . . .** HD 11-inch clutch is standard on P-350 through P-500; 10-inch clutch furnished on P-100. Hydraulic actuation reduces driver fatigue, prolongs clutch life.
- **LARGE COOLING CAPACITY . . .** High capacity "Flat Tube-and-Fin" type radiator provides for better engine cooling. Especially important for congested city work.
- **ORSCHELN PARKING BRAKE LEVER . . .** Standard on P-500, optional on P-100 through P-400. Permits easy inside adjustment of parking brake linkage.
- **AUXILIARY REAR SPRINGS . . .** Optional on P-400 and P-500 Series. Provide for extra capacity when the loads or road conditions are severe, and still allow a smooth ride under normal conditions or light loads.
- **WIDE-TREAD FRONT AXLES . . .** Provide greater front end stability, shorter turning diameter and unmatched maneuverability.
- **DOUBLE-ACTING SHOCK ABSORBERS . . .** Standard on P-100 through P-400 Series, and optional on P-500, provide smooth, level ride control.
- **STRAIGHT-LINE DRIVE . . .** Large tubular shafts and needle bearing universal joints are installed with minimum shaft angles for smooth power flow. Rubber-encased center bearing with neoprene seals is used on longer wheelbases.

NEWS OF MORE SAVINGS FOR CITY DELIVERY OPERATORS . . . ▶

Save on city delivery and shuttle costs with **'61 FORD TRUCKS**

NEW POWER AND DURABILITY WITH PROVEN 332 HEAVY DUTY V-8

Ford's 750 Series tilt-cab and conventional models provide the versatility, payloads, hauling power and economy to make them exceptional city delivery and shuttle tractors. New power and chassis improvements make possible a big increase in maximum GCW . . . from 42,000 lb. to 50,000 lb.

The improved 200-hp 332 Heavy Duty V-8 is now standard for greater performance, proven durability and low operating costs. Stress-relieved cylinder heads, 4-ring aluminum alloy pistons, sodium-cooled exhaust valves and tungsten-cobalt alloy exhaust valve seat inserts are typical of the heavy-duty features to be found on this engine for greater durability.

Ford F-Series models now have a 102-inch bumper-to-back-of-cab dimension, with front axle set only 28 inches from bumper. This permits longer trailers within given over-all

length and bigger payloads—especially in "bridge formula" states. The new independent mounting system for cab and radiator separates both from adjacent sheet metal assemblies for greater durability. And radius rod-leaf type rear springs provide better axle alignment and longer spring life. The electrical wiring system has been improved for greater reliability. Chassis wiring is fastened within the frame web, away from mud, ice and snow.

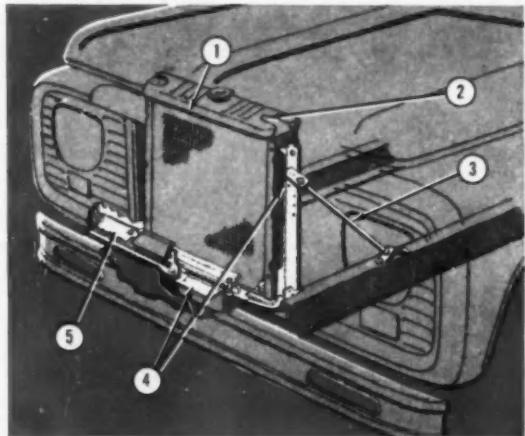
Ford C-Series tilt-cab design distributes more weight to the set-back front axle to increase payloads as much as 1,000 pounds. And fine maneuverability makes these units popular for congested traffic city runs.

These units add greater flexibility to your operation because they can "pinch-hit" as line-haul tractors with their new maximum GCW of 50,000 lb.

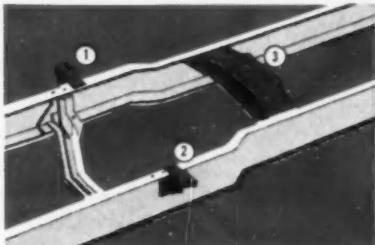




SAVE WITH NEW HEAVY-DUTY CONSTRUCTION THAT DOUBLES CAB, SHEET METAL AND RADIATOR LIFE

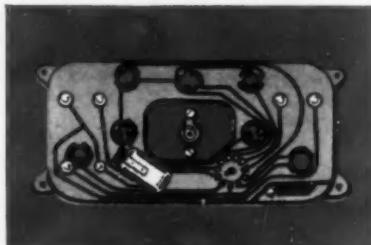


- ① **Ford's exclusive "lock-seam" radiator construction** doubles the solder area at key seams for greatly increased strength and longer radiator life.
- ② **Heavier-gauge metal** on radiator tanks and header provides more strength, greater resistance to vibration, jolts and corrosion. 25% heavier-gauge sheet metal in fenders, cab floor pan and toeboard gives greater strength and durability.
- ③ **Independent radiator mountings**, separate from front end sheet metal, mean that road shocks and shakes are not transmitted to the radiator through sheet metal. Tanks, tubes and connections last longer, require less maintenance.
- ④ **"Horse collar" mounting**, seated on resilient rubber at the center of frame cross member, soaks up any frame flexing . . . cuts wear and tear on entire cooling system.
- ⑤ **Fender mountings**, independent of both cab and radiator, eliminate stress transfers for greatly increased fender life. And only 8 bolts per fender allow easy removal for rapid service accessibility to engine area.



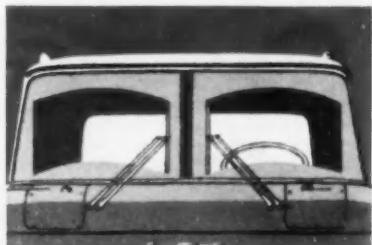
SAVE WITH NEW 3-POINT CAB MOUNTING

Two outboard front mounts plus a centered "twin" rear mount provide a triangular system that holds the cab stationary while allowing the frame to move independently. This reduces strains for greater cab durability.



SAVE WITH PRINTED ELECTRICAL CIRCUITS

Ford's printed wiring circuit is standard on all Tilt Cab models. This system, designed for long life, eliminates the "under dash" tangle of wires, minimizes shorts and is color-coded to provide for easier repairs.



SAVE WITH NEW ACCESSIBILITY

New Parallel Action wipers clear a bigger windshield area. And convenient access panels to the wiper motors cut service time and expense. These dependable wipers are available on all Tilt Cab models.

NEWS OF MORE SAVINGS FOR OVER-THE-ROAD HAULERS . . . ▶

Save on the long hauls with new '61 FORD TRUCKS

SAVE WITH HD-SERIES TRACTORS FOR PROVEN DIESEL POWER AND ECONOMY

The new Ford HD-Series tractors provide a 28-inch bumper-to-axle dimension that permits maximum legal loads in most "bridge formula" states. And their compact 82-inch BBC gives the dimensions to handle longer high-cube trailers.

And for greater payloads within their 76,800-lb. maximum GCW weight class, strong lightweight components are used throughout where consistent with maximum durability. Extra-hi-tensile single-channel steel frames, fiberglass cab skirts, aluminum steering gear housing, and optional aluminum suspension components, disc wheels, transmission cases and fuel tanks are typical examples of Ford's weight-saving design.

Ford HD-Series tilt-cab tractors are offered with five proven Cummins diesel engines for maximum

economy and durability. They are the 672-cu. in. NH-180 and NH-195 or the 743-cu. in. NH-220, NHE-180 and NHE-195. And you get a wide choice of industry-accepted power train components to "custom tailor" these tractors to your special requirements. The Ford H-Series provides these components in a "maintenance-engineered" chassis for easier service and lower running costs.

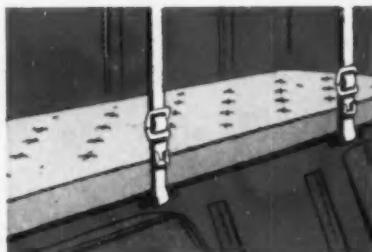
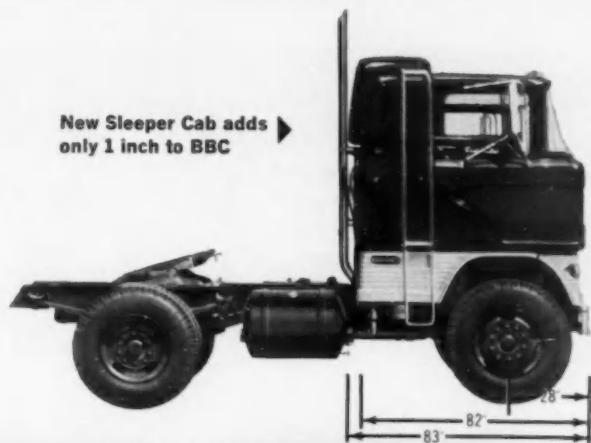
HDT-Series tandem tractors, both dual drive and pusher types, are available with a tremendous choice of power train options including a belt drive installation to transmit power from the driving to dead axle on the pusher-type tandem models. And Ford's durable Super Duty V-8's are ready with new economy for those desiring gasoline power in all H- and HT-Series tractors.



Look for this sign at Ford Dealers' across the country for parts and service on all Ford gas and diesel trucks!

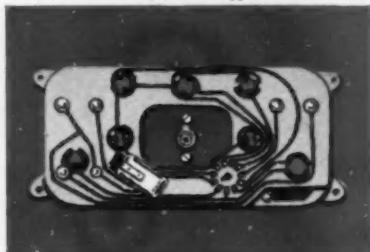


New Sleeper Cab adds
only 1 inch to BBC



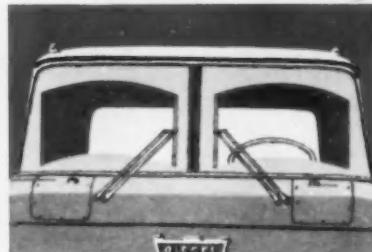
SAVE WITH NEW SLEEPER CAB

Strong, lightweight fiberglass sleeper compartment has over 7 feet of stretch-out length. Optional on all H-Series models, this spacious sleeper adds only 25 pounds to cab weight; 1" to cab length for a total of only 83" BBC.



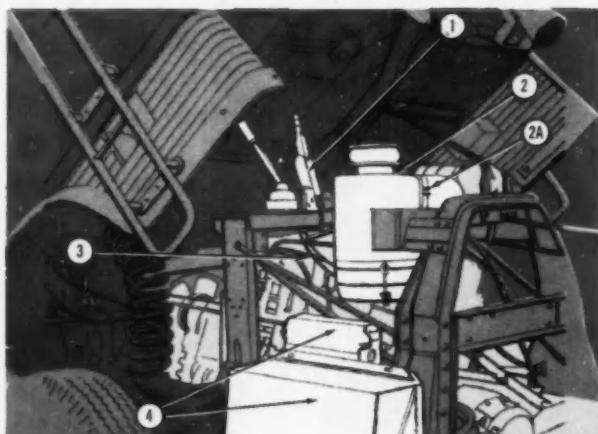
SAVE WITH PRINTED ELECTRICAL CIRCUITS

Ford's printed wiring circuit is standard on all H-Series models. This system, designed for long life, eliminates the "under dash" tangle of wires, minimizes shorts and is color-coded to provide for easier repairs.



SAVE WITH NEW ACCESSIBILITY

New Parallel Action wipers clear a bigger windshield viewing area. And convenient access panels to the wiper motors cut service time and expense. These dependable air-operated wipers are standard on all H-Series models.



SAVE WITH FORD'S EASY-MAINTENANCE DESIGN

- ① **Stationary control tower** carries the positive-action transmission and parking brake levers that do not tilt with the cab. This means transmission and brake linkage is simple and easily maintained.
- ② **Air cleaner** is protected under the cab, and draws in cool outside air through cab ducts. Its location allows air to follow a direct path to engine. **2A**. There's only one short hose connection, so multiple-connection maintenance problems are avoided.
- ③ **Complete accessibility** to key maintenance items is provided when cab is tilted. Diesel injectors, fuel pump, air cleaner, oil filler cap, etc., are all on the engine's exposed left side and above the frame rail for easier servicing.
- ④ **Battery and series-parallel controls** (for 24-volt starting) are well protected and accessible. The two HD 12-volt batteries are securely mounted, and can be readily reached for servicing.

FORD TRUCKS COST LESS

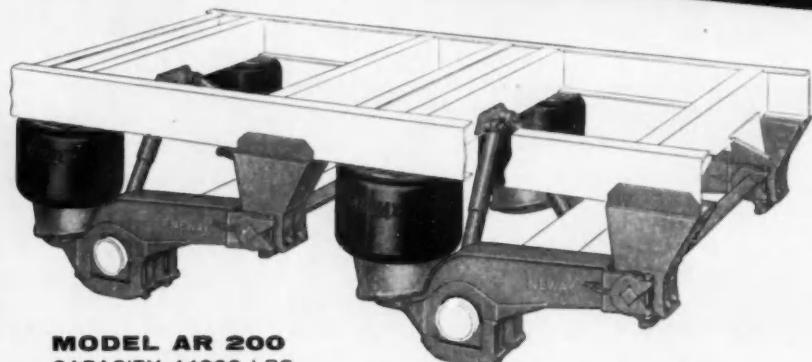
YOUR FORD DEALER'S "CERTIFIED ECONOMY BOOK" PROVES IT FOR SURE...

FORD DIVISION, *Ford Motor Company*.



HERE IS A NEWAY TO PROFIT ON AIR

with an
air SERIES
SUSPENSION



MODEL AR 200
CAPACITY 44000 LBS.



MODEL AR 200 US
CAPACITY 44000 LBS.

DESIGN SIMPLICITY — Means fewer operating headaches — less maintenance cost.

LIGHT WEIGHT — Consistent with sound design — Model AR Series weighs 720 # for a tandem capacity of 44000 # — Less weight — greater payload.

AIR SOFT RIDE — NEWAY's trailing arm principle permits the special air spring to operate safely within its capable limits. Generating a controlled soft ride under all load and road conditions — less cargo and equipment damage.

STABILITY — NEWAY's patented axle attachment plus a simple auxiliary torsion bar at front hangers provide maximum desired sta-

bility. Drivers can hold to fast road schedules in the turns.

AXLE WALK — NEWAY's trailing arm principle mounted in rubber provides maximum controlled axle walk — less strain and twist to trailer construction.

AXLE COMBINATIONS — Each NEWAY Single Axle Air suspension is an independent unit, top mounted or underslung axle position. A series of single units make up a tandem — 3 axle — 4 axle — or a 5 axle suspension system. Loading per axle is equalized through inter piping of the air system in conjunction with special constant area air springs.

Write for Bulletin A-10

NEWAY Equipment Company

MUSKEGON, MICHIGAN, U.S.A.

Designers — Engineers — Manufacturers of Suspensions for Trailers — Trucks — Specialized Equipment

*
ON
NEWAY AIR
ANYTHING IS
POSSIBLE

SINGLE AXLE

TANDEM AXLE
(TWIN AND ENGINES)

TRI-AXLE

WIDE SPREAD
(TUGO AND PLOWING)

SPECIAL FORMULA
STYLES

MULTI-AXLE



B.F.Goodrich moves the goods to market

FURNITURE EXPRESS, INC., FINDS TRACTION EXPRESS TIRES GIVE 167,000 MILES ON THE ORIGINAL TREAD

FROM Jamestown, N.Y.—one of the country's biggest furniture manufacturing centers—Furniture Express trucks fan out over 21 states to deliver the goods to retail dealers. Trucks roll 14 hours a day, 7 days a week on round trips as long as 2400 miles. This is the kind of work B.F.Goodrich Traction Express tires are built for—and at 167,000 miles they've given double the service of any other tire the company has ever used.

Part of the credit goes to the extra-thick Traction Express tread with its

massive cleats. Part goes to the B.F.Goodrich Flex-Rite Nylon cord body. Flex-Rite Nylon is twice as strong as ordinary materials, resists heat blowouts and flex breaks. The Traction Express can be retreaded over and over, as Furniture Express has discovered. Result: low tire cost per mile.

Whatever your truck tire needs, it will pay you to give your B.F.Goodrich Smileage dealer a call. He has the tires, the service facilities, and the know-how to help you get the most

out of your truck tire dollars. Your BFG dealer is listed under Tires in the Yellow Pages. *The B.F.Goodrich Company, Akron 18, Ohio.*

**Specify B.F.Goodrich Tubeless
or tube-type tires when ordering
new trucks or trailers**

B.F.Goodrich

In New Trucks or Old— **EATON INDUCTALLOY AXLE SHAFTS**



**LAST
3 to 10 TIMES
LONGER**

Through billions of miles of heavy-duty service, Eaton Inductalloy Axle Shafts have proved their ability to deliver superior performance. Freedom from break-down—more time on the road, less time in the shop—plus thousands of trouble-free miles added to axle life, mean lower over-all operating cost.

Eaton's exclusive method of dual hardening truck axle shafts produces an extremely hard case extending deep into the material structure, and enables Inductalloy Axle Shafts to handle more work and abuse without fatigue failure.

Eaton Inductalloy Axle Shafts are available not only in new axle equipment, but also as replacements for earlier models. Ask your truck dealer for complete information.

EATON
INDUCTALLOY
SHAFT

ORDINARY
AXLE
SHAFT



EATON

— AXLE DIVISION —
MANUFACTURING COMPANY
CLEVELAND, OHIO

WHAT WILL IT BE WORTH 40,000 MILES FROM NOW?

There's something to think about when you choose your fleet cars: resale value at trade-in time—usually around 40,000 miles. Even after this period of time Plymouth will still have plenty of good mileage left. The big reason is Unibody—one-piece unit, welded 5400 times for extra strength. Plymouth also has durable new interiors to stay new looking a long time. There's Torsion-Aire Ride at no extra cost. Plus a rugged V-8 engine that won the Mobilgas Economy Run in its class four years in a row. See your dealer soon for the fleet car that *really* pays off at resale!

61 PLYMOUTH PUT TOGETHER TO STAY TOGETHER



A Statement by W. E. Grace
President and Chief Executive Officer
Fruehauf Trailer Company

Fruehauf Reduces of Trailers as



W. E. Grace

In the face of a persistent upward trend in the prices of most commodities, Fruehauf is making an important pricing announcement. We are *reducing the list prices** of our Volume★Van Dry Freight, Volume★Van Reefers, Steel and Aluminum Tank-Trailers and Volume★Van Truck Body lines.

For example, prices of our most popular Aluminum Volume★Van models are reduced as follows:

EXTERIOR POST-TANDEM AXLE ALL-ALUMINUM

VOLUME★VANS

Length 35'	.....	List Reduction \$140
Length 38'	.....	List Reduction \$235
Length 40'	.....	List Reduction \$270

SMOOTH PANEL-TANDEM AXLE ALL-ALUMINUM

VOLUME★VANS

Length 35'	.....	List Reduction \$145
Length 38'	.....	List Reduction \$210
Length 40'	.....	List Reduction \$255

Prices of Aluminum Tank-Trailers have been reduced as follows:

ALL-ALUMINUM TANDEM AXLE TANK-TRAILERS

Capacity 6000 gallons	....	List Reduction \$645
Capacity 7000 gallons	....	List Reduction \$665
Capacity 8000 gallons	....	List Reduction \$700
Capacity 9500 gallons	....	List Reduction \$745

Steel Tank-Trailers have also been cut in price:

ALL-STEEL TANDEM AXLE TANK-TRAILERS

Capacity 6000 gallons	....	List Reduction \$140
Capacity 7000 gallons	....	List Reduction \$140

Engineering and Manufacturing Efficiency Stepped Up

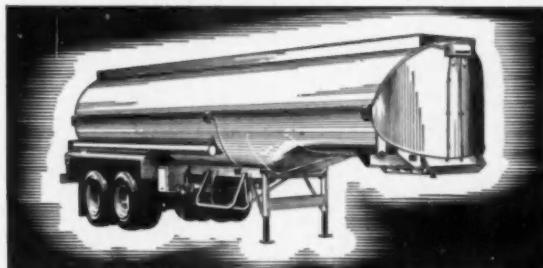
A product which is economical to produce begins with proper engineering. At the same time, there can be no sacrifices of long-time efficiency required in a profit-producing tool such as a Trailer. The present lines of Fruehaufs are such Trailers.

Fruehauf's Volume★Van line is the only Trailer line which features full interchangeability of steel and aluminum parts. It is the only Trailer line that can be tailored to give trailer operators the strength and protection they need.



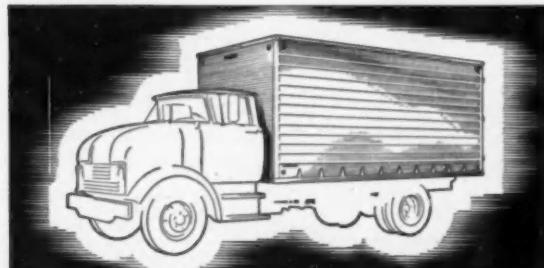
the Price Much as \$745*!

with the weight and price savings they must have to operate most profitably. It is the only Trailer line deliberately designed to take full advantage of the cost savings inherent in efficient production. This is only possible when the majority of components and parts are interchangeable.



Continue to Improve Our Products

Over the past several years, we have steadily improved our manufacturing techniques at Fruehauf. We have retooled with the most modern machinery. Our plants have been equipped with the latest in automation equipment. As we have gained in experience in the use of these modern production tools, we have been able to achieve substantial reductions in overall production costs. These savings are being passed along to America's Trailer buyers in these price reductions.



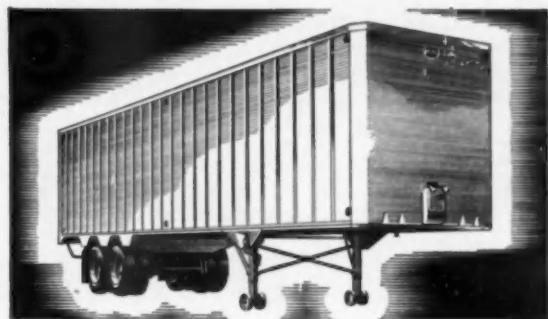
New, Lower Priced Truck Body

Within the past sixty days, we have introduced our new Volume★Van Truck Body. This new body is the product of our years of experience in developing and producing the Volume★Van Trailer. This experience has enabled us to make an immediate reduction of approximately 10% in the cost of this superior new truck body over the model it succeeds.

Fruehauf Also Leads in Other Fields

Leadership in new product development has always been synonymous with Fruehauf. No less important has been a determination on the part of Fruehauf's Management Team to expand that leadership in other important areas such as Trailer financing, leasing, insurance and nationwide Trailer service.

In addition, our engineers and design people are constantly developing new and better units. Modern, forward-thinking transportation ideas . . . our new "Twin 20's" Container Concept, for one example . . . are helping to further reduce the cost of transporting America's goods. These are only a few of the many ways Fruehauf has contributed to the steady growth of the Transportation Industry.



Price Reductions Help Transportation Industry

Fruehauf makes these price reductions at this time in the hope that they will help to halt the pernicious upward spiral of prices. We hope that they will not only benefit our national economy generally, but will furnish new impetus to the Transportation Industry.



President and Chief Executive Officer

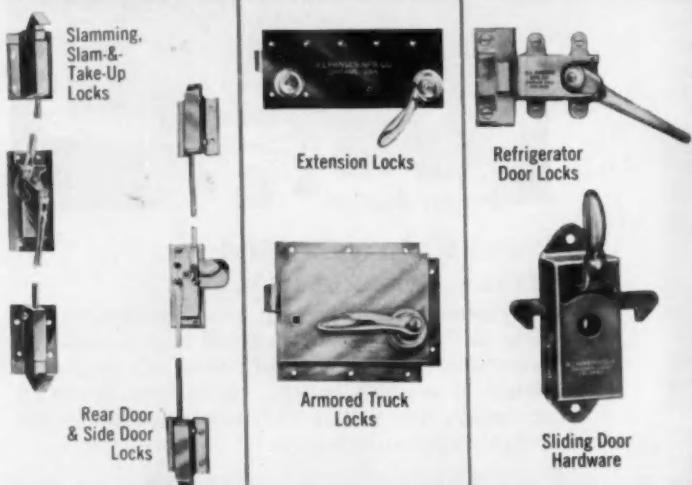
FRUEHAUF TRAILER COMPANY, 10940 Harper Ave. • Detroit 32, Michigan



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HARD WEAR!**

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1/2" DRILLS



BENCH GRINDERS



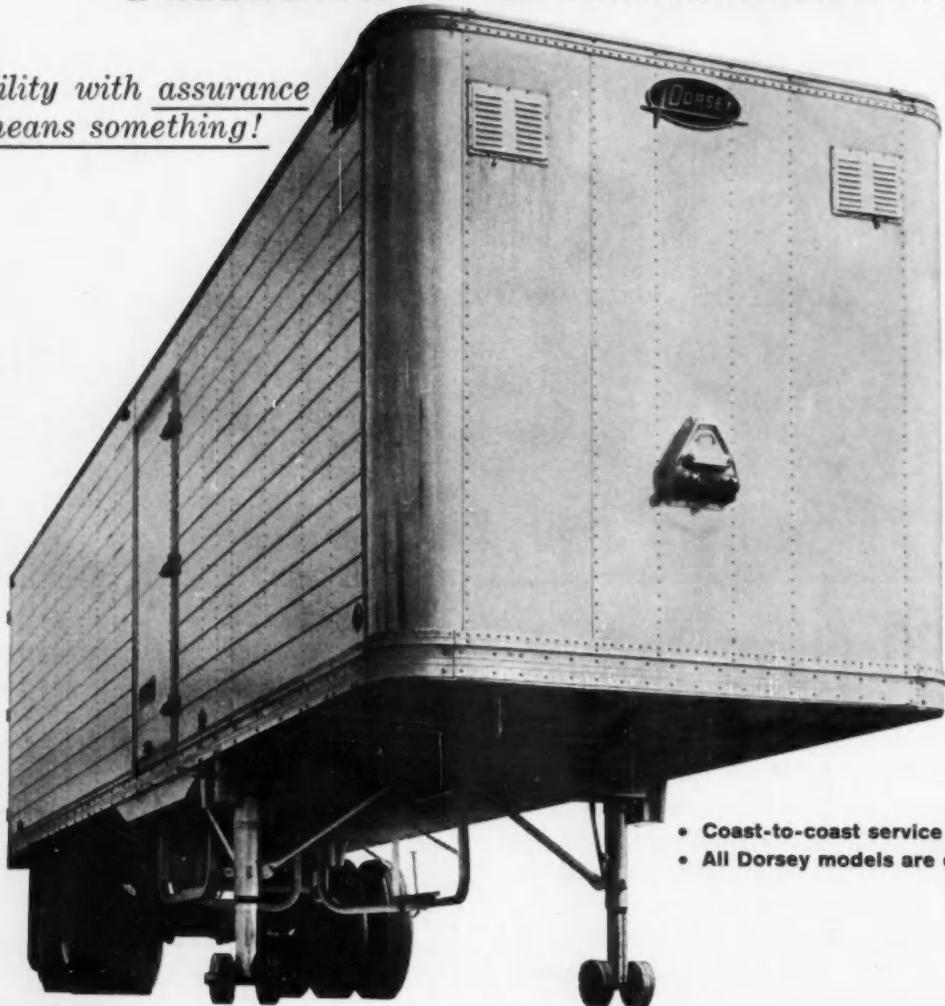
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A Subsidiary of The Dorsey Corporation



LUBE LOGIC

MONEY-SAVING IDEAS FOR AMERICA'S FLEETS

WHY GOOD OIL NEEDS GOOD FILTRATION

The best way to make sure you get premium protection from premium lubricants is to use a clean oil filter.

The new modern detergent oils will do things for your engines that a straight mineral oil could never do, but they're not a cure-all, and they can't handle the whole job on their own. That's why it's more important than ever that you back up a premium-grade crankcase oil with a good *clean* oil filter.

Modern oil filters do a fine job — so good, in fact, that they sometimes get neglected. But take a good look inside a filter, see what it does and what it doesn't do, and you'll see that you can't afford to neglect the filter if you expect to get top performance from your oil.

What does a filter do best?

Filters do their best work handling the medium-sized bits of contaminants that build up inside an engine. These particles get trapped pretty quickly, because the oil in an average engine circulates completely once every thirty seconds — a total flow of about 800 gallons an hour.

We mentioned the medium-sized dirt; but what about the other sizes? The heavy stuff takes care of itself — falls to the bottom of the crankcase and stays there until the oil is drained. But the finest particles are smaller than the pores in even the very best oil filter, so they go right through. Eventually these particles meet other particles, stick together, and then you've got sludge. Sludge sticks to odd corners of the engine and doesn't even get to the filter, so you've got a problem.

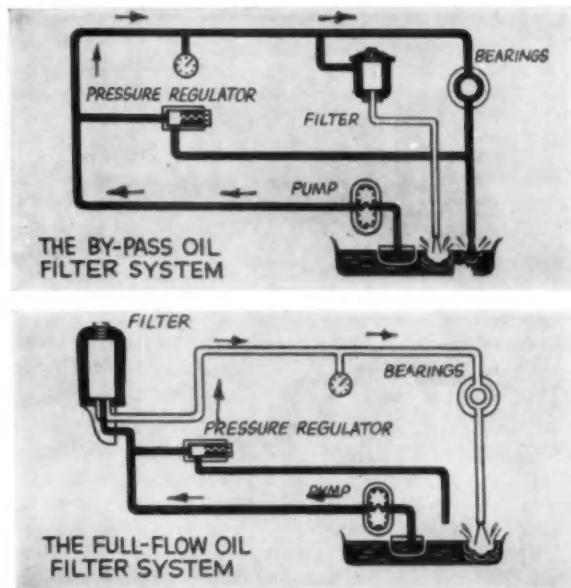
Enter detergent-dispersive oil

Detergent-dispersive oils, like Texaco Havoline or Ursa Oils, are specifically designed to keep these particles from sticking together, to separate the ones that have, and to keep the particles trapped within the oil stream. These carbon particles are so small that even a very thin oil film, like the one inside a loaded bearing, is still thick enough to cover the particles completely and keep them from scratching engine surfaces. The only way to get rid of these particles is to drain the oil.

But additives can do just so much, and if the filter isn't clean enough to do its share, the oil gets more work than it can handle. By neglecting the filter, you're simply not letting the oil do the job it does best.

It takes two to handle corrosion

Another vitally important job that the oil and the oil filter share between them is preventing corrosion from acid and water. All engines produce some moisture and



acid as they burn fuel. A good filter in good condition can handle some of this water and acid, but only for a comparatively short period. After that, it's up to the oil, which is why premium Texaco motor oils contain acid-neutralizing chemicals.

By-pass or full-flow?

A full flow filter, as you can see in the diagram, filters all the oil every time around; a by-pass type filters only a part of it. Both types have a relief valve that measures the amount of pressure it takes to push oil through the filter element. The dirtier the filter, the more pressure is required. When the filter element is clogged, the valve opens and the oil goes through without being filtered at all.

What's the answer?

The best answer will be the one you get from your Texaco Lubrication Engineer, and it's best to consult him because the ideal filter-change interval depends importantly on the type of service. In particularly severe service, for instance, a filter change every time you change the oil may be a good idea. But it will pay you to find out exactly when to change filters, and then stick to the system recommended to you by your Texaco Lubrication Engineer.

SEE FOLLOWING
PAGES FOR:

Trailin' the Mail
with Al

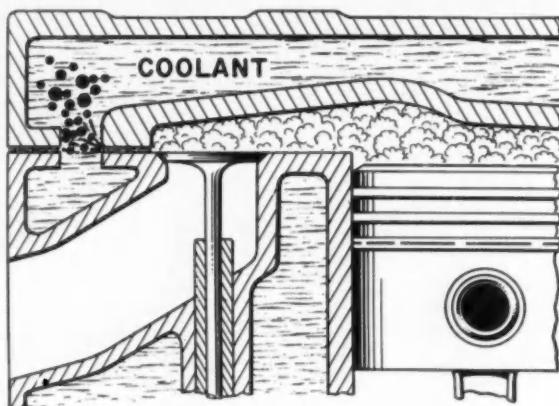
Five new
shop tips

Shock absorbers
and insurance

What's new
from Detroit

LUBE LOGIC

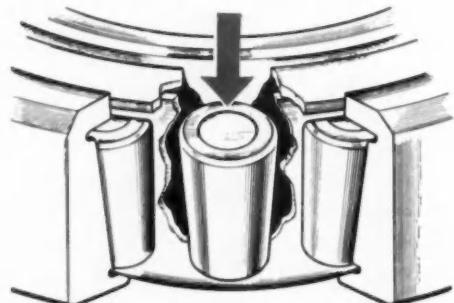
Four tips



OIL IN COOLANT IS CLUE TO LEAKY CYLINDER HEAD GASKET

A few drops of oil floating around in the water in your radiator used to mean, at worst, that you had over-lubricated the water pump. But these days most water pumps are permanently lubricated, and if you do spot oil in the coolant, you may be in on an early symptom of a leaky cylinder-head gasket. The oil in the coolant is oil that has been forced past the leaky gasket by engine compression. The same leaky spot can also allow water to get into the cylinder, and then into the oil, which can lead to a corrosion problem in time. Moral: oil in the radiator is your tip-off that it's time to run a compression test.

CHANGE THE DIFFERENTIAL LUBE, SAVE THE BEARINGS



WHAT'S NEW FROM DETROIT

ON ALTERNATOR-EQUIPPED CARS, reversing polarity on the alternator system will burn out the wiring harness and may damage the alternator. Use extreme caution when installing a battery, attaching battery charger or booster battery. When fast-charging battery on alternator-system cars, disconnect *both* battery cables. When using a booster, negative lead of booster must be connected to negative (ground) terminal of car battery; positive booster lead must be connected to positive terminal of car battery.

LIGHT TOUCH BEST FOR SPEEDOMETER CABLE LUBRICATION

The speedometer is another one of those places where too much lubrication is as bad as too little. If the speedometer cable has been greased too heavily, the grease will eventually be forced up into the speedometer head, and gum up the works.

If you're having this trouble, the first step is to get rid of the excess grease. Pull the cable out of the casing, wash it with kerosine or other suitable solvent, and dry it thoroughly. Incidentally, if you spot any kinks or frayed ends, you'd better replace the cable.

If the old cable is still sound, relubricate it sparingly following this procedure: place a small amount (about a teaspoonful) of Multifak 2 in the palm of one hand, and insert the end of the cable into the conduit housing. Spread a light film of lubricant on the cable as you push it into the housing, taking care not to get any grit or dirt on the cable or the lubricant. When you reach the halfway point, stop lubricating. Leave the rest of the cable dry; otherwise, the excess lubricant will eventually get into the speedometer head again.

It's vitally important, on new trucks, to make the first change of the differential lubricant *promptly* at the mileage recommended by the manufacturer. By that time, the factory-installed lubricant may be highly abrasive, because of minute particles of metal worn off the gears during break-in. If you don't change the lubricant you'll get very rapid wear of gears and bearings.

One of the most likely spots for this wear to show up is on the thrust area at the ends of the anti-friction bearing rollers. You'll know it's worn if you see that the recessed area in the center of the roller ends has disappeared. If roll-end wear persists long enough without correction, pinion and ring gears get noisy. When it comes to that, your only option is to replace the bearing. Moral: whatever you do, don't stretch lube intervals, especially on new vehicles.



SURGING DURING ACCELERATION between 30 and 60 mph on 1960 Chevrolet trucks equipped with the 235 cu. in. engine is caused by lean air-fuel mixture. The condition can be corrected by installing a richer fuel metering jet. The richer jet is available from manufacturer's dealers as Part No. 7001860; it's characterized by the long tapering approach orifice instead of the squared orifice of the original part.

to cut shop time

**WHEEZE INSTEAD OF WHIZ?
power loss may be due to—
*clogged muffler—bent or plugged tail pipe***



One of the minor mysteries that occasionally crop up in gasoline-engined trucks and fleet-cars is a sudden inability to achieve the speed and acceleration you used to get with-

out any trouble. The engine will run fine until you get to, say, 10 mph in first, 20 mph in second or 40 in third gear, and then it simply won't go any faster, even if you push the pedal to the floor. (The speed at which your truck "flattens out" this way will vary depending on how fast the engine runs in each gear.)

If any of your trucks have these symptoms, check first to see if there are any obstructions in the tail-pipe or muffler. If the pipe is kinked or bent, or the end of it clogged with a wad of dirt, the resultant back pressure will keep the engine from revving up beyond a certain point. A clogged muffler will create the same effect.



Trailin' the Mail with AL

maybe the choke lever is simply hitting something that prevents full movement. Also check to see that the clamp screw on the choke lever isn't slipping. If none of these checks solve your problem, you'll probably have to loosen the choke lever clamp screw, shorten up on the bowden wire until the valve closes completely, then re-tighten. In this case it's better to shorten too much than too little. Another possibility to check at the same time is a broken spring or bent stem on the small auxiliary air valve in the choke butterfly, which would allow the valve to stay open all the time.

Dear Al,

I have a problem with a panel delivery truck that makes its oil very black very soon after changing. I know a detergent oil gets dark because it picks up carbon, but this looks to me like an extreme case. I've tried changing the filter with every oil change, but after a thousand miles of travel the oil is black and gummy again. I'd like to know how dark is too dark for engine oil, and how I can correct this situation if it's really a bad one.

E. A. M., Lemon Grove, Cal.

An engine will darken its oil very quickly if it's making fuel carbon faster than oil drains can remove it. Changing the filter won't slow down the darkening very much because the carbon particles that make the dark appearance will pass right through any filter.

The only reliable way to find out whether an oil is so dark that it's harmful is with chemical testing, which costs a lot more than an oil change does. If the engine is functioning properly, your best solution would simply be to change the oil more often than every thousand miles. But there are several small adjustments you can make that will prevent your truck from making excessive amounts of fuel soot.

For example, you'll get a lot of fuel soot if the automatic choke isn't working, if it sticks or binds, or if it's adjusted too rich. You'll get the same problem if the cooling system thermostat is defective; if the manifold heat control valve binds or is stuck in the open position; if low-speed carburetor settings are too rich; if the intake valve on the carburetor float bowl leaks; if the carburetor air-filter is clogged; or if the piston rings are worn prematurely or are inadequately broken in. You can spot this last problem if you're getting poor oil economy along with the darkening. It's also worth noting, in this connection, that idling an engine for more than five minutes at a time will darken the oil prematurely, even if everything else is perfectly adjusted.

Shoot in your puzzlers to Trailin' the Mail with Al, at Texaco's Fleet Sales Division, 135 East 42nd Street, New York 17, N. Y. There's a real fine group at the Division — ready to serve every "on-wheels" fleet from coast to coast.

Dear Al,

One of our vehicles has a starting problem. Even with the choke pulled all the way out, it won't start, no matter how long I crank the engine. But when I remove the air cleaner and put my hand over the air horn, it starts up right away. I changed the fuel pump and carburetor, and recharged the battery, but the car still won't start unless I go through the routine I just described. What's wrong?

E. Z., North Tonawanda, N. Y.

The fact that the engine starts when you take off the air cleaner and cover the air horn with your hand proves that the trouble is in the manual choke — probably the butterfly valve isn't closing properly. Next time you have the air cleaner off, pull the choke all the way out and look at the valve to see that it's closed.

If it doesn't close tight, several things could be causing it. Maybe the air horn itself is distorted, so there isn't room for the valve to close all the way; or

LUBE LOGIC

DON'T LET WORN SHOCK-ABSORBERS HIKE YOUR INSURANCE RATES

Next time you're meditating on safety measures to help keep your insurance premiums down where they belong, don't overlook the shock absorbers.

Shock absorbers make driving safer by snubbing rebound from road bumps. A car or truck with weak shock absorbers can become very skittery on rough roads, sometimes bad enough to make the driver lose control.

Shock absorber condition affects wheel alignment, too. When the wheels on a car or truck are out of alignment, you get shimmy and violent jumping on rough roads, another way you might conceivably lose control.

When should you check the shocks?

There's no formula, because service life of shock absorbers varies with different types and different roads. But here's a helpful statistic: seven out of every ten passenger cars with more than 20,000 miles on the clock need new shock absorbers.

You can spot the need in various ways. The bounce test works fine, provided the car or truck is light enough. Simply bounce a parked vehicle, and if it keeps bouncing



(more than one or two rebounds) it probably needs new shocks. A hollow clunk from the front end is another symptom you should check out. Uneven tire wear, particularly on the outside edges of the tires, is another clue that it's probably time to replace shock absorbers.



GET YOUR NEW TEXACO TRUCK STOP FOLDER

The new edition of Texaco's Truck Stop Folder is now available, and it's more valuable than ever. Lists over 300 locations from coast to coast where Texaco service is available 24 hours a day. Has a bigger, clearer map, and contains up-to-the-minute listings of all state length-and-weight regulations. Bonus feature: Texaco's new Truck Stop Folder stays legible longer, because it's printed on slick paper that resists smudging. You can get a free copy from your local Texaco representative or direct from Texaco Inc.



TEXACO AUTOMOTIVE ENGINEERS



Every month we'll bring you news about the latest "doings" in servicing and lubricating your trucks. We'll also bring you "sleepers," little angles, easy to overlook, where big savings in money and time can be made. But month in, month out, your local TAE is the best source of money-saving lubrication ideas. Don't forget that "Lubrication is a major factor in cost control."

Texaco Inc., Fleet Sales Division, 135 East 42nd Street, New York 17, N. Y., Dept. CCJ-111.

TEXACO
Throughout the United States
Canada • Latin America • West Africa





"Food shipments must roll dependably . . . ours do on Timken® bearings," says Stokely-Van Camp

"YOU can't take chances with food shipments," says famous food canner Stokely-Van Camp's General Fleet Superintendent, R. E. Bobenmoyer. "That's why our trucks and trailers roll on Timken® tapered roller bearings." Stokely-Van Camp's 293 vehicles roll 23,000,000 miles a year across the United States. Preventive maintenance is a key factor in their operation. And during the 15 years they've been using Timken bearings, reports Mr. Bobenmoyer, their bearing maintenance cost has been a

negligible part of total maintenance. He adds that whenever or wherever they need Timken bearings or service, they get both—promptly.

Stokely-Van Camp buys Timken bearings like thousands of fleet owners do—on price. Not initial price, but *price per mile*. They know it isn't the price you pay for bearings that counts, it's the performance you get.

We make sure of that extra good performance by safeguarding the quality of Timken bearings right from the start. We use the finest bearing-quality alloy steel available.

We know it's the best because we know steel; we're in the alloy steel business.

To be certain you enjoy the finest performance from your replacement bearings and your new equipment: Specify Timken tapered roller bearings. And to get the most from your Timken bearings send for free booklet, "Fleet Owner Service Manual". The Timken Roller Bearing Company, Canton 6, Ohio. Cable: "TIMROSCO". Canadian Division: Canadian Timken, St. Thomas, Ontario.

**Lowest price per mile...
mile after mile after mile**

TIMKEN®
tapered roller bearings



new Bendix block lasts 65% "million mile"



ON MOUNTAIN ROADS, new Bendix S-1100 Heavy-Duty Brake Blocks "passed the test" with flying colors over long periods of time.



CROSS-COUNTRY RUNS were another "trial hurdle" that Bendix S-1100 blocks negotiated successfully in repeated and lengthy tests.

Two years of field tests have proved it! The new Bendix® S-1100 Heavy-Duty Brake Block offers more value per dollar on extra-tough hauling jobs.

On-the-job tests were given these new blocks on 161 different vehicles. They put in 1,100,000 miles of service on logging trucks, sand and gravel trucks, bus fleets, coal haulers, and other heavy-duty vehicles. Operating areas ranged from the Alcan Highway, the California "ridge run," and the Arizona and Texas desert country, to mountain runs in West Virginia and Pennsylvania.

Typical operator comments about Bendix S-1100 were: "Superior performance under heat and wet conditions"; "uniformly good braking performance." Nine out of ten operators reported longer block life than with brands previously used. The average reported was 65% to 75% longer life.

Inertia dynamometer tests in the laboratory also awarded a definite performance edge to Bendix S-1100. Wear was measured after 25 drags, lasting 30 seconds each, at successive base temperatures of 400°F., 600°F., 800°F., and 900°F. In every

heavy-duty brake longer in rugged test



HEAVY LOADS presented no problem to the time-after-time efficiency that the new Bendix S-1100 heavy-duty blocks provided.

check, Bendix S-1100 showed substantially less wear than any of the 14 other brands tested.

If your operating demands are extra-heavy, then you should investigate fully the superior-performing Bendix S-1100 Heavy-Duty Brake Block (branded in blue for easy identification). For less severe operating conditions, specify Bendix "ED" truck brake lining sets, "EM" or "S-400" brake blocks.

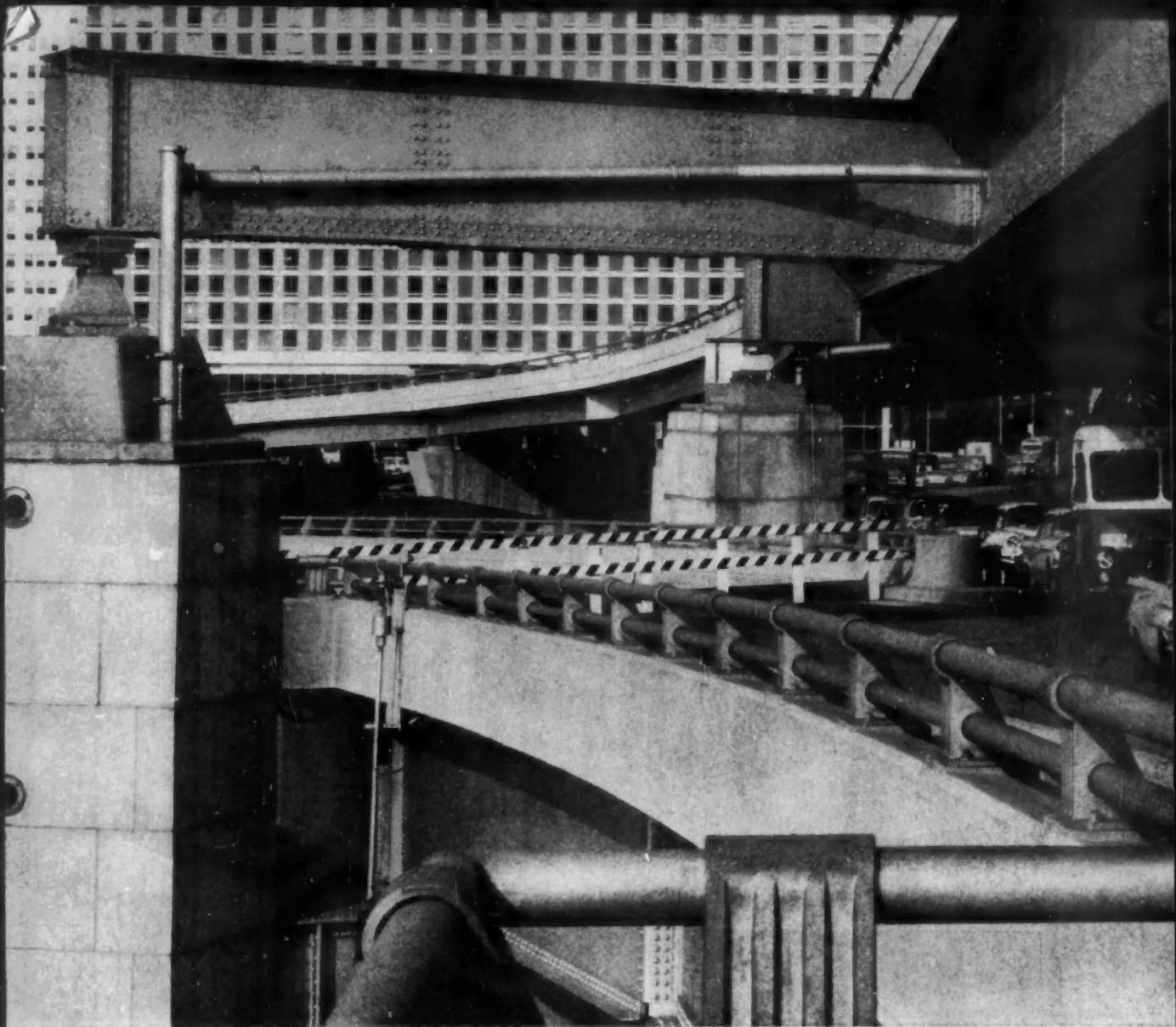
See your nearby Bendix distributor or write direct to Bendix in Troy, N. Y.



LOOK FOR
BENDIX S-1100 BLUE
—THE MARK OF QUALITY



Marshall-Eclipse Division
TROY, N. Y.



Like many other efficient operators, **GULF MAKES THINGS**

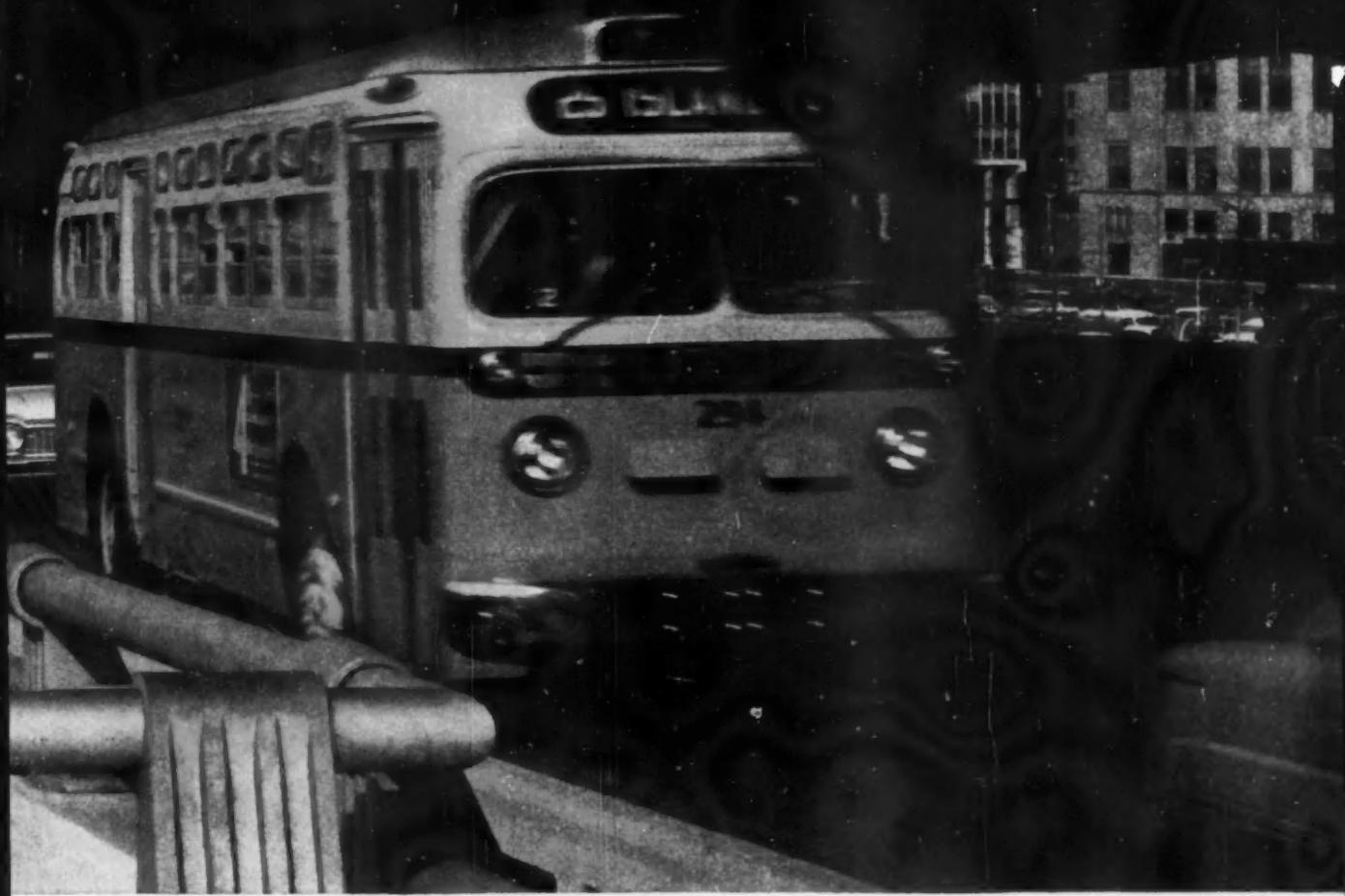
Last year, Pittsburgh Railways Company buses totaled better than 7 million miles in city bus service. This Pittsburgh, Pa., company has 175 diesel and 83 gasoline buses. And just recently, PRC purchased 19 spanking-new buses.

PRC maintenance men have set up a preventive maintenance program that includes normal inspections at 2,000, 4,000 and 8,000 miles and a major mechanical at 16,000 miles. And most important, they've combined this program with Gulf® fleet products to hold operating costs as low as possible.

The program is so effective that PRC diesel buses average close to 215,000 miles before a major over-

haul is necessary. Here's what Earl Curry, Jr., Superintendent of the Homewood Bus Shop, says, "Some of our diesels have gone 258,000 miles before they were overhauled. I like to get gasoline engines at 100,000 miles and 6-cylinder diesels at 215,000 miles. At these mileages, we can re-build an engine economically. Otherwise, repair costs go up."

Gulf lube® Motor Oil H.D., Gulf diesel fuel and Good Gulf® gasoline keep these engines clean—help them last longer. PRC records also show that diesel buses average 4.5 miles per gallon on Gulf diesel fuel, while gasoline buses average 4 miles per gallon on Good Gulf gasoline.



Pittsburgh Railways Company reports: **RUN BETTER!**

Try Gulf fuels and lubricants in your fleet operations. You'll soon discover why Gulf makes things run better! Call a Gulf Sales Engineer at your nearest Gulf office.

GULF OIL CORPORATION

Dept. DM, Gulf Building
Houston 2, Texas



Earl Curry, Jr., left, Superintendent of the Homewood Bus Shop, tells William Jones, Gulf Sales Engineer, that Gulf fleet products have helped diesel engines like this one average almost 215,000 miles without a major overhaul.

More details? Circle 151 on reply card inside back cover



You
take
care
of the
business...



the '61 Ford is built to take care of itself!

Now you can prefigure your fleet savings... over \$84 a year per car with Ford's self-maintenance features alone!

Tear up your old maintenance cost ledger and throw it away. The '61 Ford's new "takes-care-of-itself" features are deliberately designed to eliminate many of your routine maintenance costs automatically. You'll go 30,000 miles between chassis lubrications which cost about \$4, take about 20 minutes, where other cars require 15 to 30 lubes in 30,000 miles at costs up to \$45. You'll also go 4,000 miles between oil changes. Forget about brake adjustments. Ford brakes adjust themselves automatically for the life of the lining. Muffler replacements? Divide this expense by three. Ford mufflers are double-wrapped and aluminized to last three times as long as ordinary mufflers. Forget waxing, too. Ford's Diamond Lustre Finish never needs it. The chart at the right shows many ways Ford saves, based on 24,000 miles a year per unit as a fleet average. Your savings may be even more.

Fleet drivers can expect plenty of traveling comfort and handling ease, too. Man-sized doorways, foam-padded front seats, more generous insulation, and stretch-inviting interiors keep you fresh and alert longer. The '61 Ford offers you a trimmer exterior with up to 25% easier steering, providing a new dimension in maneuverability.

Compare these '61 Ford advantages against your present fleet. Add up your savings. Then let your Ford Dealer help you outfit your fleet with the car that's beautifully built to take care of itself . . . your budget . . . and you!

FORD DIVISION, *Ford Motor Company*.

OTHER FLEET CARS		1961 FORD	
CHASSIS LUBRICATION (\$1.50 every 1000 miles)	\$36.00	30,000-MILE CHASSIS LUBRICATION (Under normal driving conditions)	—
OIL CHANGES (5 qt. @ 50¢ every 2000 miles)	30.00	OIL CHANGES (5 qt. @ 50¢ every 4000 miles)	\$15.00
BRAKE ADJUSTMENTS (\$2.00 per adjustment—approximately every 6000 miles)	8.00	NEW SELF-ADJUSTING BRAKES (Mechanically adjust automatically for the life of the lining)	—
MUFFLER REPLACEMENT (Including installation charge—once per year)	15.00	DOUBLE-WRAPPED ALUMINIZED MUFFLER (Lasts up to 3 times as long as ordinary mufflers)	—
WAXING (Once per year @ approximately \$10.95)	10.95	FORD DIAMOND LUSTRE FINISH (Never needs waxing)	—
TOTAL	\$99.95	TOTAL	\$15.00
FORD SAVES YOU \$84.95			

The figures represent estimates of average national cost of owning and operating a 1950-60 full-sized American car for a year and driving it an average annual distance of 24,000 miles as compared with the '61 Ford.

Beautifully built for economy and lasting value. . .

'61 FORD

*"Revere Reefer Floors enable us to deliver
Borden's Milk and Milk Products
fresh as a daisy, daily,"*



REVERE COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

230 Park Avenue, New York 17, N. Y.
Sales Offices in Principal Cities

One of the trucks made for STATE DAIRY, INC., by
WEST ROCK WAGON & AUTO WORKS, INC., Orange, Conn.

Says FRANK DI BIASE, President
STATE DAIRY INC.
New Haven, Conn.



"Our refrigerated trucks simply couldn't be anything but sanitary, with the floor made up of Revere aluminum reefer floor sections. They are so easy to keep clean, have no exposed bolts, can't rot or rust, plus the fact they give us air circulation where we need it for most efficient refrigeration. Then, too, they stand up under the day-to-day beating that a truck floor is bound to get."

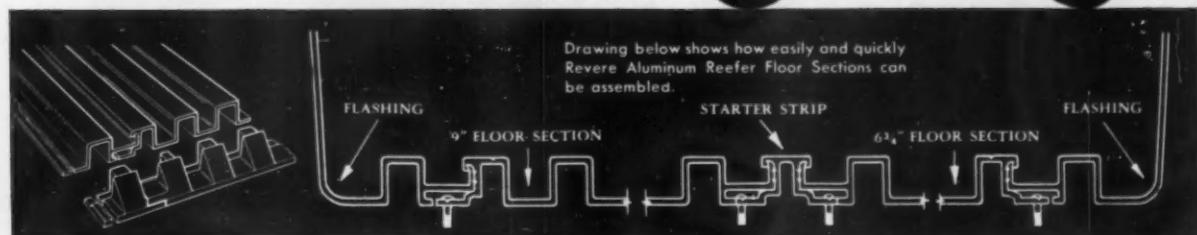
Low maintenance, added payload and space and the no-splinter advantages of aluminum, are other features users like about Revere aluminum reefer floor sections.*

Users and equipment builders will be particularly interested in the drawing at the bottom of this advertisement, which shows Revere's special interlocking design for watertight construction, flexibility in floor widths (6 $\frac{1}{4}$ " and 9"), concealed bolts and bolt holes, interlocking starter strip for easy assembly, and multi end-plug castings.

SEND FOR SAMPLES AND LITERATURE TODAY!

Specify Revere Hi-Air-Flo or Standard Reefer Floors, or Dry Freight type. Revere Reefer and Dry Freight Floors are available for prompt delivery from stock. For more information get in touch with the nearest Revere Sales Office.

*U. S. Pat. No. 2,786,556

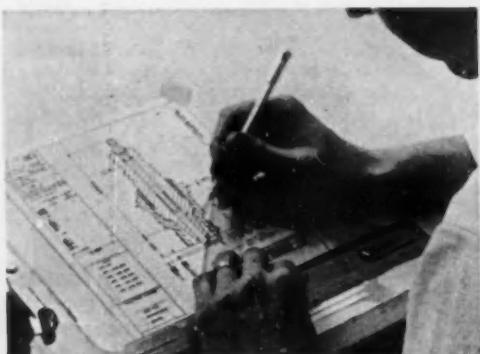
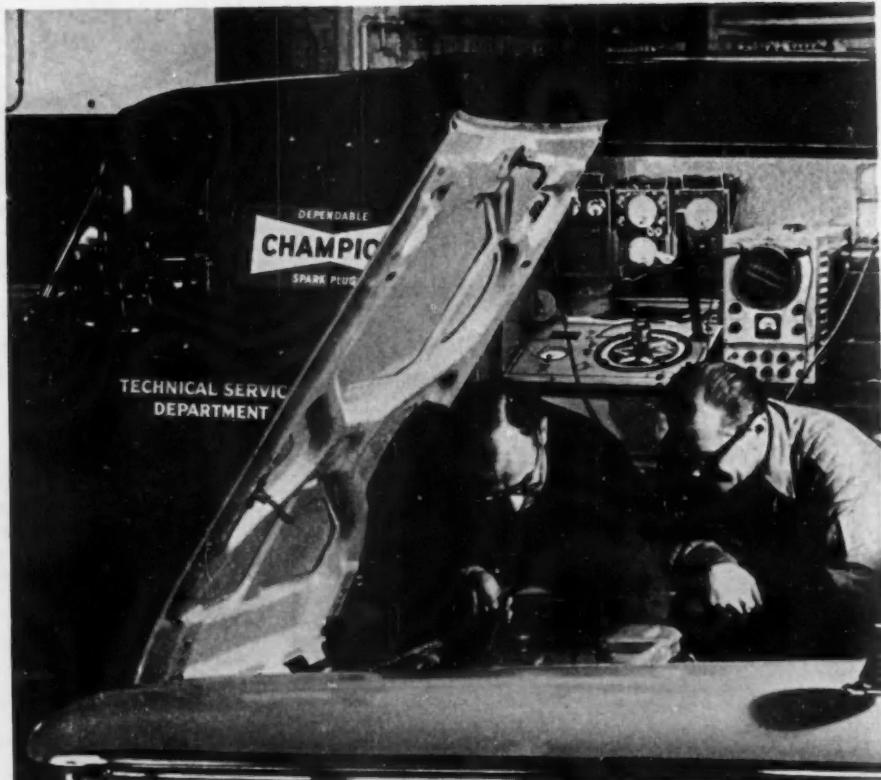


You can use this Champion "know how" and cut operating

EXCLUSIVE TECHNICAL HELP

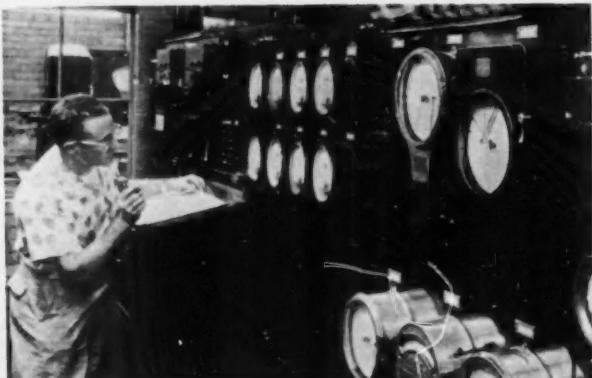
Only Champion operates mobile units to help fleets get the best possible engine performance with the lowest operating costs. Manned by Champion field engineers, these traveling engine-analysis labs bring the latest ignition "know how" right to fleets.

Use this exclusive technical help to improve performance and cut operating costs in *your* fleet. Call your Champion Sales Representative or supplier, or write Technical Services Dept., Champion Spark Plug Company, Toledo 1, Ohio.



SPECIFIC ENGINE DESIGN

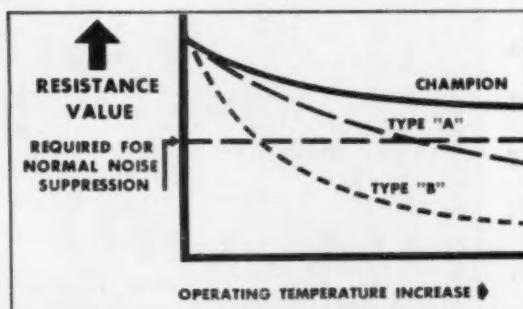
There's a Champion spark plug specifically designed for every make of engine and every kind of service condition. That's why you are assured of getting top power, maximum economy and long plug life when you use Champion spark plugs in *every* engine in your fleet.



QUALITY CONTROL

This technician is checking to see that exact temperatures are maintained in the huge kilns that fire Champion insulators to their ultimate high density and strength. Careful quality control like this assures you of the same dependable performance from *every* Champion spark plug.

how" to improve performance costs in your fleet



SPECIAL APPLICATION PLUGS

Champion resistor-type spark plugs reduce ignition interference and loss of signal strength in two-way radio-equipped vehicles. In many resistor plugs, heat pushes resistance too high or too low. Plugs misfire, or ignition interference comes through. Champion resistor spark plugs reduce interference and fire smoothly at all engine temperatures. Ask your Champion representative about these special plugs.

CHAMPION

Service Tips

FOR IMPROVING PERFORMANCE AND CUTTING MAINTENANCE COSTS

Alternate timing light connection—If you can't easily connect your timing light to the No. 1 plug in the firing order, the engine can be timed correctly by connecting to the fourth plug in the firing order on a six-cylinder engine, or the fifth plug in the firing order of an eight-cylinder engine. An easy way to find this alternate plug is to list the first half of the firing order, then list the second half directly below it. The alternate is then always directly below the No. 1 plug.

Take this typical V-8 firing order, for instance:

1-8-4-3-6-5-2

1-8-4-3

6-5-7-2

Thus, plug No. 6 is the alternate plug, the one to connect the timing light to.

DEPENDABLE

CHAMPION

SPARK PLUGS



CHAMPION SPARK PLUG COMPANY • TOLEDO 1, OHIO

HOW MOBIL CUT COSTS \$4,636 PER YEAR FOR CENTRAL NEW YORK FREIGHTWAYS.

Operating a fleet of 84 power units and 75 trailers, Central New York Freightways serves the area from Buffalo, N. Y., to New York City. Mr. W. W. Patterson, Jr., Freightways President, reports "operating costs have been cut \$4,636 a year since starting the Mobil Program for Fleets." The Mobil Program for Fleets works in the 5 areas of fleet operations affected by petroleum products. Namely, (1) Preventive Maintenance, (2) purchasing, storing and dispensing of petroleum products, (3) correct application, (4) analysis of equipment, methods and results, and lastly, (5) employee effectiveness.



\$3,636

Continuing analysis of equipment and products—

By subjecting lubricating oil to periodic and thorough laboratory analysis and by regular inspection of engines, Mobil Engineers were able to make recommendations which resulted in effecting a saving of \$202 per year for each of their 18 diesel tractors . . . and establishing a total reduction of \$3,636 in lube, filter and labor costs.



*Preventive maintenance simplified—*Oil change schedules are maintained on a Mobil Preventive Maintenance Control blackboard for easy checking by shop personnel and management. Mobil permanent equipment folders are used to keep a record of all maintenance work done on each piece of equipment. These and other Mobil easy-to-use files, forms, and records simplify PM procedures.

At-home terminal in Syracuse, N. Y., Mr. W. W. Patterson, Jr., President Central New York Freightways, reports his fleet relies on Mobil fuels and lubricants for good mileage and maximum protection.



Premature transmission and axle failure checked—Mobil Engineers

found *prolonged* use of gear lubricant was resulting in an average of 4 premature axle or transmission failures a year. Since following Mobil Engineer's recommendations, including use of a Mobil "extreme pressure" lubricant of good high temperature stability, and establishing more frequent lube change periods, there have been no premature failures of transmissions or axles. With only slight increase in lube costs, over-all savings are estimated at about \$1,000 a year.



Here's how the Mobil Program for Fleets can help you.....

"If you're like most truckers, you operate on a pretty narrow margin of profit. Some figures I've seen show that the average trucker gets a gross return of about four cents out of each dollar of revenue. And out of this you have to take care of any capital expenditures, interest, and income taxes. The line between profit and loss is slim. Every dollar you can cut from operating costs is most important. And that's where we can help you, just as we did Central Freightways.

"The Mobil Program for Fleets is aimed directly at one objective . . . to *increase your profits by reducing your operating expenses*. How do we do that? With a program that functions in the five areas of your fleet operations that are affected by petroleum products. I repeat . . . it's a *program*. It's not a one step operation. It's a *continuous* method constantly at work to help you reduce operating costs, increase the availability and life of your equipment, and promote safety.

"Take just one example . . . employee effectiveness. I don't have to tell you what an important part your personnel can play in helping to keep costs down. The Mobil Program for Fleets helps you here by providing films, clinics, on-the-job training to help your employees upgrade their skills and operate more efficiently.

"We help you with a simple, effective PM system. We help you with purchasing, storing and dispensing of petroleum products, with correct application and use of those products, with analysis of equipment, methods and results. And we give you a periodic progress report that tells you why, where and how you've cut costs. Having a Mobil Program for Fleets of your own, tailored to your needs, is an excellent way to lower your costs of doing business and fatten that slim margin of profits. For more information, contact your Mobil Representative. Or write to me, at the Mobil Oil Co., 150 East 42nd St., New York 17, N. Y."

J.V. Sudder MANAGER, FLEET SALES



PROGRAM FOR FLEETS

NOW... on your trucks... get an extra tire mile for every two you run!



Copyright 1961, The Firestone Tire & Rubber Company

NEW **Firestone**
TRANSPORT-100 BOOSTS
TRUCK TIRE MILEAGE 50%
... AND MORE

← More details? Circle 155 on reply card inside back cover

COMMERCIAL CAR JOURNAL, March, 1961



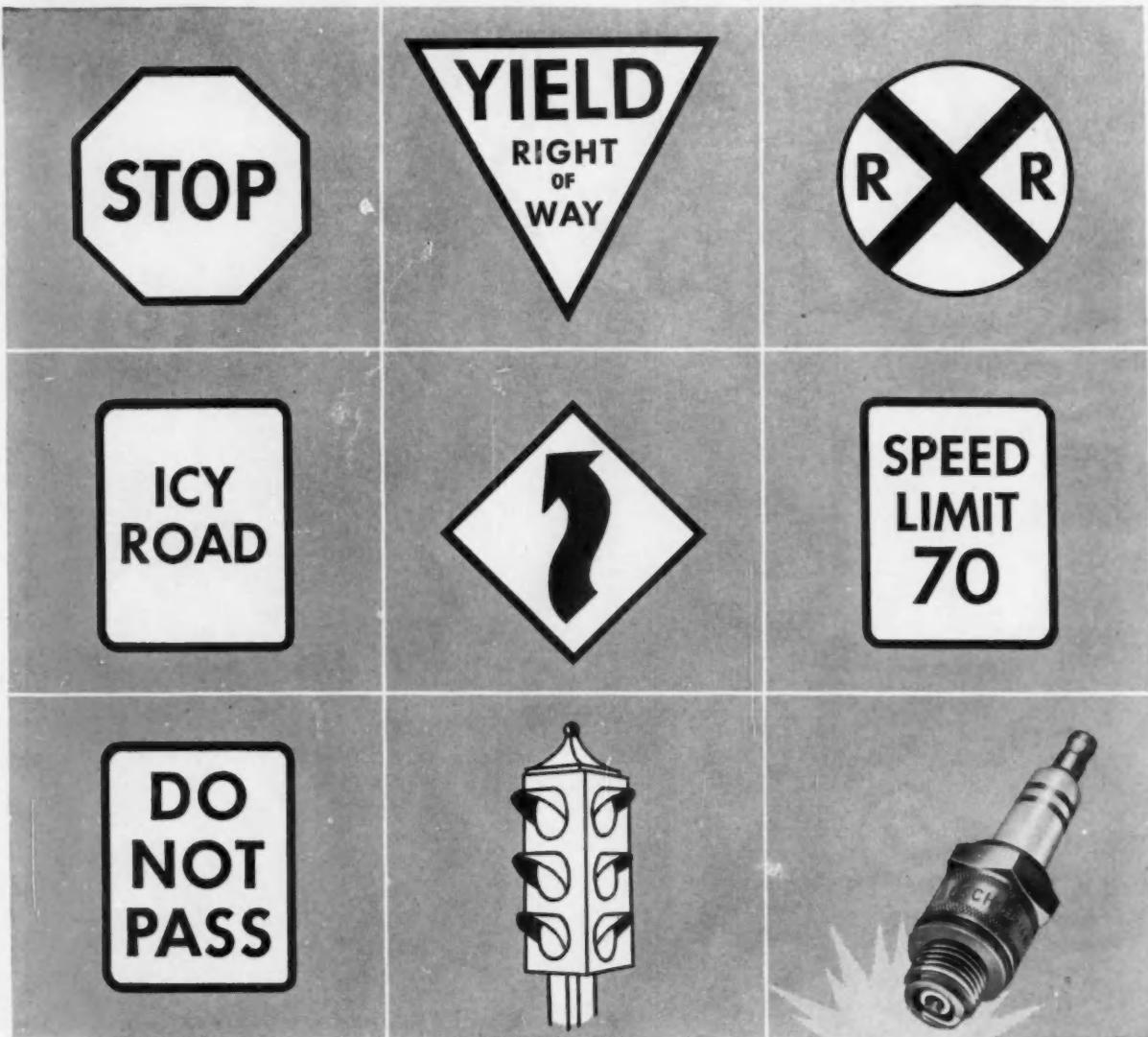
109 million miles of nation-wide fleet tests have proved that the new *all-wheel position* Firestone Transport-100* gives 50% and more original tread mileage than any other regular original equipment Firestone truck tire. Even when half-worn, the Firestone Transport-100 retains its amazing traction and delivers *faster starts and quicker stops* than most truck tires do *when new*. What makes this tire so outstanding? ■ A new principle in tread design. ■ A new torque-toughened Firestone Rubber-X and a Shock-Fortified cord body. ■ A flatter crown to equalize tread print pressure. ■ A broad center rib that helps equalize load distribution. ■ New tread "stone guards" that keep pebbles out. See the new Firestone Transport-100 at your Firestone Dealer or Store! In Nylon or Tyrex® rayon cord, tubeless or tubed.

*Firestone—T. M.

Tune in *Eyewitness to History* every Friday evening, CBS Television Network

© T. M. of Tyrex, Inc.

Signs of Extra Profits



The plugs that adapt to every driving condition

ROBERT BOSCH *thermo-elastic* SPARK PLUGS

Adaptability to the driving condition of the moment! It's yours in the thermo-elastic plug—the heavy duty performance plug that prevents pre-ignition, fouling, loss of power—lowers your cost. Original equipment on best-selling imports. Ideal for all domestic applications as well.

Write for details: ROBERT BOSCH CORPORATION
40-25 Crescent St., Long Island City 1, N.Y. 225 Seventh St., San Francisco, Calif.

ROBERT BOSCH
PUTS THE
POW'N'POWER

The ROBERT BOSCH name also identifies the best in ignition, lighting and starting equipment, electric wipers, coils, horns, regulators, fuel injection systems and other fine products.

CHART THE COURSE TO COOL PROFITS!



Your men will feel better, look neater . . . produce more for you with GM car and truck Air Conditioning!

Salesmen are sold on the benefits of Harrison Air Conditioning in GM cars and trucks—"It's a great investment!" Over 90% of the 366 salesmen of a national concern using air-conditioned cars claimed, "I make more calls—my job performance is up—I'm more alert—feel fresher—less fatigued." You'll find healthful Harrison Air Conditioning delivers the just-right calling climate of refreshing washed air for the best business climate . . . the just-right temperature and humidity. Moreover—since dirt and grime are locked outside, your representatives' cleaner and neater appearance gives a better impression of your company. Whether you have already purchased or are about to buy your new Cadillacs, Buicks, Oldsmobiles, Pontiacs or Chevrolets*, see your GM Dealer for a demonstration of Harrison Air Conditioning—a reliable General Motors product!

*Harrison Air Conditioning is also available on most 1961 Chevrolet trucks.

SEE YOUR GENERAL MOTORS DEALER FOR AN AIR-CONDITIONED DEMONSTRATION

GM cool air by the carload
HARRISON
AUTOMOTIVE AIR CONDITIONING

*COMPRESSOR BY FRIGIDAIRE

HARRISON RADIATOR DIVISION, GENERAL MOTORS CORPORATION, LOCKPORT, NEW YORK
AUTOMOTIVE RADIATORS • OIL COOLERS • THERMOSTATS • AIR CONDITIONERS • HEATERS • DEFROSTERS

1961

30,000 miles chassis lubrication



MOLUB-ALLOY®

The Metallic Lubricant

Used by the
FORD MOTOR COMPANY
Ford, Mercury,
Lincoln Continental vehicles,
for the lubrication of
front ball joints.



serving industry throughout the world —

IMPERIAL OIL & GREASE CO., INC.
6505 Wilshire Boulevard • Los Angeles 48, California



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REFRIGERATION

AFDOUS or FFAICC *what STANDARDS will you meet?*

**Challenge to fleetmen is
voluntary compliance
or enforcement by regulation**

THERE'S NO DOUBT that frozen food carriers are going to have to meet more rigid temperature standards in the near future. For many, it will mean new equipment . . . and personnel training.

Two years ago (as reviewed at right), private and for-hire carriers of frozen foods were alerted

At press time the new FFAICC voluntary standards for frozen foods handling were out for final OK. If you'd like a free copy when finally approved, circle No. 488 on the reply card inside the back cover.

to a demand that such cargo be carried at zero . . . with no tolerance whatsoever.

Main push at that time came from the Assn. of Food and Drug Officials of the United States (AFDOUS). It got into the act in 1955. At that time a question was raised as to the possible need for laws regulating the bacteria level in frozen foods.

Although a study of the entire distribution chain from warehouse to the public—including over 3000 retail stores in 31 states—showed little danger to the public from bacteria, it disclosed a bigger problem, says AFDOUS. The quality level of frozen foods not handled at zero deteriorates rapidly.

Actually, even the quality problem might be overstated. *Consumer Reports* in Jan. 1959 reported on frozen dinners. They sent shoppers out in 15 cities to buy a dozen samples each of

Where do we stand . . .

Frozen food handling today faces rigid standards . . . either the no-tolerance "O" Code of the Assn. of Food and Drug Officials of the United States (AFDOUS) . . . or the expected more workable proposal sponsored by the Frozen Food All Industry Coordinating Committee (FFAICC).

First major warning that AFDOUS was seeking legislative support for its demand that frozen foods be handled at zero came at Truck-Trailer Manufacturers Assn.'s meeting in Jan. 1959 (Feb. '59, page 49). Soon after, Massachusetts became the first state to put the AFDOUS Code into law (Sept. '59, page 50).

Alarmed, ATA's Common Carrier Conference—Irregular Route invited AFDOUS to sit down and talk things over (Dec. '59, page 36). The carriers felt the proposed rules were neither workable nor enforceable. Fleet operators also took their concern to other associations in the frozen foods industry, who joined in formation of FFAICC (Jan. '60, page 33). A suggestion for informal tolerances was made at the IRCC meeting by an AFDOUS official (May '60, page 36), but it was not satisfactory to the carriers.

A strong protest noting several defects in the AFDOUS Code, was made at the AFDOUS meeting last year (July '60, page 35). Result was that AFDOUS postponed adoption of its Code . . . turned it over to a committee for revision . . . said it would like to see reports on any voluntary program developed by FFAICC.

A special ATA committee began working to find reasonable tolerances (Sept. '60, page 33). In January, the committee put its proposals into final form, submitted them to FFAICC middle of last month.

Next step will be to see if the FFAICC alternative will be acceptable to AFDOUS . . . thus avoiding adoption by AFDOUS of its "O" Code when it meets in June this year . . . and heading-off any push to have the no-tolerance Code enacted into law in the several states.

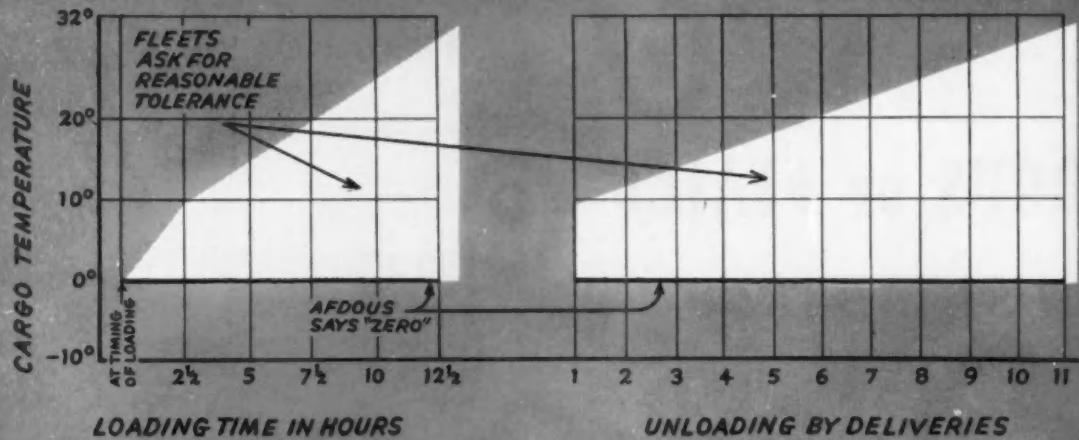


Chart compares AFDOUS "zero" limit with system of tolerances proposed last year. But fleetmen real-

ize danger of these, ask only for more realistic approach to allow for re-equipping and training

STANDARDS

Continued

five brands of frozen dinners. Conclusion: "While all the tested brands were judged to be at least Good, and most were rated Very Good, none qualified as Excellent, because none was up to the quality of fine restaurant or expertly home-cooked fare."

For maximum score, meat in the frozen dinners had to be "tender and succulent, of top quality in flavor and appearance . . ." Vegetables had to "taste good, be firm but tender in texture . . . and bright in color." Further, "in all of the dinners tested, the bacterial counts were relatively low . . ."

Two months later, Mar. 1959, *Consumer Reports* had this to say on frozen fruit pies: "About two-thirds of the brands rated Excellent; the rest, Good. In fact only one of the almost 300 individual pies was judged less than Good." Rating standard took into account "appearance and texture", but "Taste or flavor was given the greatest weight among the four rating criteria . . .".

The need for standards

Thus, at first glance, it may seem that AFDOUS is raising a fuss over a small problem. But this view is not correct either. Frozen foods sales during 1960 approached \$2½-billion. It's a big industry—with a sizable investment in processing equipment, reefer trucks and trailers,

CAN REEFER fleets live with standards? The answer has to be "Yes". States seem all too ready to enact laws . . . issue regulations.

Even though AFDOUS has not yet given final approval to its Code, at least seven states have adopted all or part of it. They are Connecticut, Florida, Illinois, Maryland, Massachusetts, New York and Tennessee.

But fleets are coming close to meeting reefer standards . . . by law or voluntarily.

University of Massachusetts undertook a study of eight frozen foods distributors in that state. The eight were selected to provide both a geo-

graphic and operational cross-section. Data was collected during April, May and June last year.

In Massachusetts . . .

Says the report: "Median delivery temperature was 9 deg F. A few temperatures were observed above 20 deg F, but the majority were between 0 to 10 deg F. The delivery temperature observations reported were taken during weather conditions varying from a low of 40 deg F to a high of 88 deg F."

"Where distributors had definite routes, the number varied from six

Can reefer fleets live with standards?

refrigerated warehouses and refrigerated facilities in retail stores.

Consumers being as they are, it takes but a few examples of poor quality before the word spreads like wildfire that frozen foods are no good. In other words, it's your business that AFDOUS is trying to protect. AFDOUS's view, as recorded by ATA's Common Carrier Conference—Irregular Route, is that its Code "will bring about a decided increase in the consumption of frozen foods, because it will insure better quality, better public acceptance, and more confidence on the part of the housewife."

Refrigerated fleet operators share this view. Major point of disagreement with AFDOUS is whether improved refrigeration of frozen foods is to be accomplished through further laws and regulation . . . or by a voluntary standard relying on the force of free enterprise's competition to weed-out the "eight balls" in the business.

Fleetmen have been working through American Trucking Assns. in cooperation with 10 other trade associations in the frozen foods industry to develop such a voluntary standard. This code, as approved by the Frozen Food All Industry Coordinating Committee (FFAICC), was scheduled to be made public late last month.

But AFDOUS is still working to put its Code into final form for possible approval when it meets in June this year. Statements to COMMERCIAL CAR JOURNAL from spokesmen for both AFDOUS and FFAICC indicate small chance of a successful compromise between the two.

- Says C. S. Brinsfield of AFDOUS: "Unless this research (the FFAICC standard) comes up with information different than what is already in the tentative (AFDOUS) Code, there should be no changes except that of the (AFDOUS) Editing and Format Committee."

- Says H. K. Schaufler of FFAICC: "In all probability, AFDOUS will then be given the

courtesy of a look at them (the FFAICC proposals) before they are announced to the trade."

Both FFAICC and AFDOUS are in favor of a zero standard for handling and transportation of frozen foods. But AFDOUS wants immediate and legally enforced compliance. FFAICC looks to voluntary compliance.

Says Schaufler, "The industry's standards (FFAICC) state *realistically* just what the frozen food industry is capable of doing now, with present equipment, to reform its handling practices which admittedly are bad in some areas."

They also go further. "They establish a timetable for further reform, as equipment is replaced, so that eventually the ideal goal of total reform may be achieved. The AFDOUS Code . . . proposes total reform right away—something that manifestly is impossible."

The AFDOUS Code has three parts—retail, warehousing and transportation. Space does not permit discussion of all three, but here are highlights of the transportation section . . .

- Refrigerated vehicles must be equipped to keep product and air temperature at zero. They must have an exterior-mounted gage for reading inside-the-body temperature. In addition, route delivery trucks shall have door curtains or flaps . . . or small unloading "port" doors.
- Over-the-road reefer trucks and trailers must be pre-cooled to 20 deg or lower before loading. Route delivery truck precooling must reach zero or lower. Internal product temperature (inside the shipping package) cannot exceed zero during loading, transportation or unloading.

Except for the AFDOUS demand for overnight compliance and more laws and regulation, there'd probably be no fight. Responsible reefer fleet operators are actually very close to meeting "O" standards . . . as the comment below indicates.

to 25 with average stops per route ranging from 18 to 50. . . . In general, estimates of maximum daily mileage per truck were about 100 miles.

"During loading operations, product temperatures were observed to vary from no change, in one instance, to a high of 8 deg F in another. . . . Average product temperature rise from first to last delivery was approximately 5 deg F."

The report also comments on characteristics of the equipment observed, and frozen food handling practices.

In his job as warehousing and transportation general manager for Kroger (a 20-state 1400-store grocery

operation), F. O. "Soc" Terrill uses some 650 refrigerated trailers.

At Kroger

In regards to a "O" Code, he tells CCJ that, "We are moving in that direction on a voluntary basis. During these past two years, we have built lower-temperature warehouse freezers. This, together with improved trailers, has resulted in a much lower temperature at time of delivery to the stores.

"The improvement in our warehouse facilities and delivery equipment has been supplemented by train-

ing our personnel in minimizing the time merchandise is exposed to unfavorable temperatures in all phases of the distribution cycle. We have also insisted to our shippers and carriers that they deliver merchandise to our docks in good condition.

"We believe that the major part of the problem in handling frozen food is behind us and that we will be able to handle this commodity under desired temperatures."

In other words, "O" for frozen foods can be attained. Not overnight. But within a reasonable length of time to allow for training and economic re-equipping.

REFRIGERATION

Will FOAMED insulation help?

ONE OF THE more startling possibilities in meeting the coming, stiffer reefer standards is urethane foam.

Its characteristic—see above right—make it an almost ideal insulation for refrigerated truck and trailer bodies. But to realize its advantages depends on the fabricator's ability to handle a complicated chemical reaction.

It can be done. Research and road tests of prototype and production units developed during the past few years are producing the right answers. But there are pitfalls.

Producing the foam is simple—as the series of photos below show. But such uncontrolled foaming won't produce the result you want.

The desirable result is a foam with closed cells entrapping a fluorinated hydrocarbon (known by such trade names as Freon, Ucon, Genetron . . . and without which the insulating value of the foam is cut in half). To accomplish this, special techniques are needed.

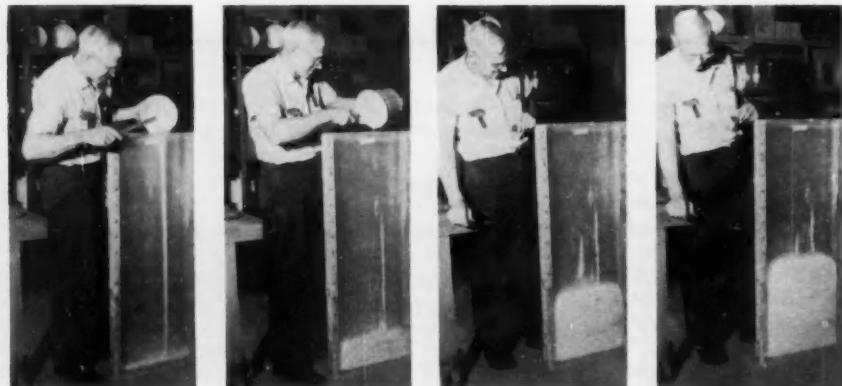
To date, three processes offer the best possibilities. As illustrated below, at far right, they are (1) pre-foamed panels, (2) spraying and (3) foaming-in-place. Newest and most successful version of this last is "frothing." Instead of pouring in the chemicals, they are pre-mixed and introduced as froth into the cavity.

It's a tricky business. In the hands of the inexperienced, it's easy to get foam but not long-lasting insulation. Depending on the process used, the maker has to watch the proportions of chemicals in the mix . . . as well as pressure, temperature, humidity and time.

Pressure keeps the foam density even. Without this control, uneven cell size, variations in the number of cells per cubic foot or even voids result to cause unsafe variations in the foam's insulating ability. Temperature and humidity play a part in pressure control, also affect reaction time as well as help keep the fluorinated hydrocarbon in balance. Time control prevents

WHAT

Basically, foaming appears simple: Mix chemicals together that react to form foam. Urethane sets up rigid in closed-cell structure entrapping fluorinated hydrocarbon . . .



Urethane foamed-in-place insulation, wonderful, but new!

Foamed-in-place urethane insulation is about twice as efficient as other insulations. That's its biggest advantage.

This low "K" factor plus other urethane characteristics could result in a reefer body that will . . .

- Hold 0 deg.
- Give high cube.
- Permit more payload.
- Have very low moisture absorption.

- Have very little insulation shakedown.
- Be almost free of localized hot spots.
- All but eliminate wind leakage.
- Use new construction methods.
- Have wall-to-wall bonded insulation.
- Be largely corrosion-free in its walls.
- Give a long, useful life.

Sounds ideal doesn't it? That's why this report is important. There are pitfalls. But they're being overcome . . . as you'll see.

the foaming mix from becoming rigid until it is properly in place.

Equipment to handle these variables on a mass production basis is complicated and expensive. One trailer maker tells CCJ that foaming equipment is "a six-figure investment!"

For this reason, it looks like frothing or foaming-in-place will be offered by high volume truck body and trailer producers . . . with local body builders working with pre-foamed panels — at least for the present. To date, spraying seems limited to a 2-in. thickness . . . good for some purposes but probably not for all.

In addition to the high cost of equipment, the chemicals used in making urethane foam are more costly. They run about \$1.30 per cu ft of insulation . . . as compared to around 85¢ per cu ft for polystyrene block insulation. On the other hand, use of foamed-in-place insulation largely eliminates cutting and fitting of blocks . . . as well as use of bonding adhesives.

One producer of both polystyrene blocks and pre-foamed panels of urethane says the urethane cost would be 90 per cent higher on an equal thickness basis. However, since less thickness is needed, cost of the urethane would be about 20 per cent more than polystyrene for the same insulating ability.

At present, there's no clear answer as to which offers the lowest initial cost. But even if the foam-insulated trailer has the higher first cost, it seems probable that it will be more economical in the long run.

Biggest advantage, naturally, is foamed urethane's insulating ability. The combination of closed-cell structure entrapping fluorinated hydrocarbon has an insulating efficiency about twice that of its closest competitor.

To the fleet operator, this means more payload, more payload space and possibly (but not in all cases) a somewhat smaller refrigeration unit.

Most generally being used is a urethane foam

HOW

But foaming is a complex chemical reaction, requiring careful control. Successful methods so far include (at right) prefoaming panels, spraying and foaming in place



FOAMED insulation

Continued

weighing around 2 lb per cu ft. Right out of the factory, it can have a "K" factor as low as .11. Properly bonded to aluminum, year-long tests showed it remaining under .12. Even unprotected urethane foam seldom gets above .17 in lab aging tests.

Since the "K" factor is a measure of heat transmission, the lower an insulation's "K" factor, the better it is. Closest body insulation currently in use, polystyrene, has a "K" factor of .22 to .28.

Better job with less insulation

At Private Truck Council of America's annual meeting last month, George Chiegar of Fruehauf compared a 3-in.-foam-insulated trailer with a 6-in.-fiber-glass-insulated trailer. Using the Dept. of Agriculture test method, he says the foam-insulated does 30 per cent better . . . in spite of halving the insulation thickness.

But reports indicate that not all low temperature bodies in use today are true "zero" bodies. If your bodies won't hold zero now, it will take more foam insulation than just half your present thickness to produce a "zero" body of similar size.

Closely allied with its insulating efficiency, is urethane foam's wall-to-wall bond as it hardens in place. Depending on the overall construction of the reefer body, this characteristic can have several advantages.

Foam's payload advantage

This is where urethane foam gets much of its payload advantage. At 2 lb per cu ft, it doesn't compare too well with polystyrene at .9 lb per cu ft or fiber glass at .75 lb per cu ft . . . even if you need only half as much of the foam.

But moisture pick-up from wind leakage and condensation can add 1000 lb per year or more of in-the-wall weight. That is, unless there's an effective seal against wind leakage and a good vapor barrier. Initial reports indicate that urethane has both . . . built-in! First, because it bonds to both sides of the body wall, roof and floor. Second, because over 90 per cent of the foam cells are closed—even without the bonding feature.

National Bureau of Standards tests of four

reefer trailers (made before foamed urethane was being tried) showed they had to get rid of 12,410 to 8,860 Btu of heat per hour to maintain zero. But, from 5000 to 2260 Btu of that was due to air leakage. So when you can cut air leakage, you not only get less moisture pick-up and more payload but also more efficient cooling.

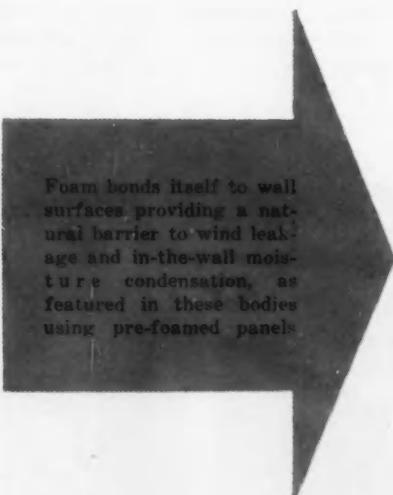
R. A. Hammond of Du Pont summarized it this way at Truck-Trailer Manufacturers Assn. recent annual meeting: "Not only is the overall heat transfer much less than that of similar units insulated with fibrous materials, but the air leakage in completely foamed units is negligible. In addition, there is hardly any water or ice pick-up through condensation in the walls when operating at low temperatures."

One prototype foam-insulated trailer designed by Sterling Refrigeration Engineering Co., Omaha, Nebr., showed no weight gain after 142,000 miles of regular over-the-road refrigerated operation, reports du Pont.

Many other advantages

In addition to the payload and cooling efficiency advantages, elimination of moisture and ice build-up in the insulation keeps trailers in use. The fleetman saves the time lost—up to a week

For example—Here's



Foam bonds itself to wall surfaces providing a natural barrier to wind leakage and in-the-wall moisture condensation, as featured in these bodies using pre-foamed panels

sometimes—in thawing and drying-out a reefer body.

Reports also show little or no shrinkage with age, indicating that foam urethane retains its wall-to-wall bond. Benefit to you: Longer insulation life with practically no insulation sagging or shakedown, thus promising that a urethane-foam-insulated body loses little cooling efficiency during its service life.

The wall-to-wall bonding feature also opens the door to new body construction techniques. Better bodies could result with much added strength . . . as well as further reduction of in-the-wall corrosion and localized hot spots.

It may take a while to find out whether some of the possible new body building techniques can be used to advantage. Others are here today. Included in both categories are such as . . .

- Economical re-insulation of older bodies.
- Elimination of the inner liner.
- Easy small-area repair by spraying or use of pre-foamed block patch.
- Floor cross members with aluminum flanges and reinforced plastic web (no metal-to-metal contact). Added strength comes from the bonding characteristic of the foam. Their use could produce a lower floor height.
- Adaption from missile and rocket technology

of sandwich wall construction, with fewer and possibly non-metallic hat-section ribs.

- Use of epoxy adhesives to eliminate rivets and welding . . . even up to an all-glued box.

- Framework design eliminating all difficult areas where insulation must be custom fitted . . . leading to fully seamless insulation without any joints.

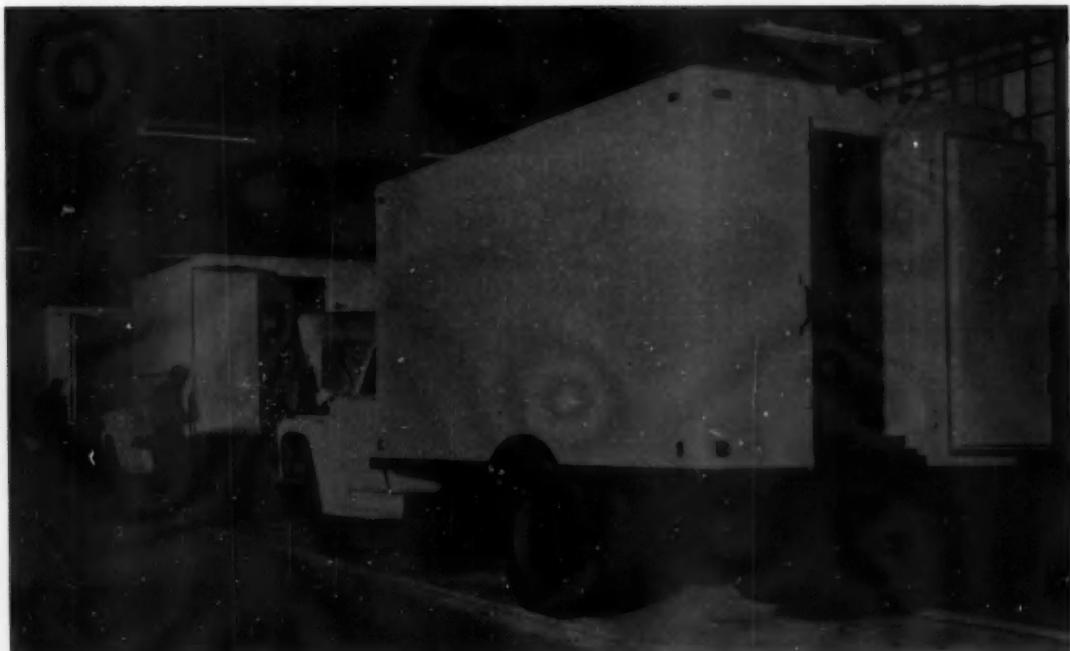
Urethane foam is "clean." It has no food value, therefore does not support bacteria, fungus or vermin. Reports indicate that it imparts no odor or taste to refrigerated cargos. It is generally considered flame-retardant and self-extinguishing. And, urethane-foam-insulated trailers can be steam cleaned.

One example of how foamed insulation works out in production line bodies comes from Haskelite Division, Evans Products Co., Grand Rapids, Mich. The company has been working with pre-foamed, wall-to-wall bonded panels for over six years.

Last year, it took a production body to the Budd Co.'s reefer rating lab . . . checked it against National Bureau of Standards tests for heat transfer, air leakage and condensation. Says Haskelite, "The body received unusually good ratings in each of the three areas tested."

(TURN TO PAGE 182, PLEASE)

a reefer body—rated and foam insulated



REFRIGERATION

You might try NITROGEN freezing -----

ONE OF THE NEWEST methods of holding perishable cargos at zero or lower is the "Polarstream" system devised by Linde Co., Division of Union Carbide Corp.

The key to "Polarstream" is liquid nitrogen. It is automatically sprayed from the truck or trailer ceiling onto the cargo at necessary intervals—holding perishables at any preset temperature down to minus 320 deg. F.

"Polarstream" is particularly adaptable for multi-stop transit of frozen foods, Linde says. It already is in use for local deliveries. The equipment and operation described here function best in a 15-ft local delivery truck, according to Linde.

Basic "Polarstream" equipment consists of a liquid nitrogen storage tank, a temperature controller (or thermistor), a relief valve, a spray header, and the necessary valves, piping and safety devices.

The capacity of the liquid nitrogen tanks varies from 195 to 370 lb. They are 20 in. in diameter

and fit into the corner of the cargo area. A filling connection box is placed outside the cargo compartment, where tanks of nitrogen are taken on in about 10 min from a central storage tank on the fleet's lot. No pumps are needed because of the pressure difference.

Power to operate the control devices is from the vehicle's electrical system—only a "slight" draw, Linde says.

When the temperature in the cargo space rises above the preset figure, the thermistor actuates a solenoid switch, which in turn starts the spray header. Temperature is adjusted in a few seconds.

At the delivery point, the driver turns the system off with a switch inside the cab. No nitrogen is wasted when the box door is opened several times at a stop. If the operator fails to turn off the switch, the system is inactivated when he opens the box door.

The cargo is lowered again to the preset reading when operator turns the switch back on.

Reefer interior shows spray header pipe on ceiling and liquid nitrogen storage tank placed in corner

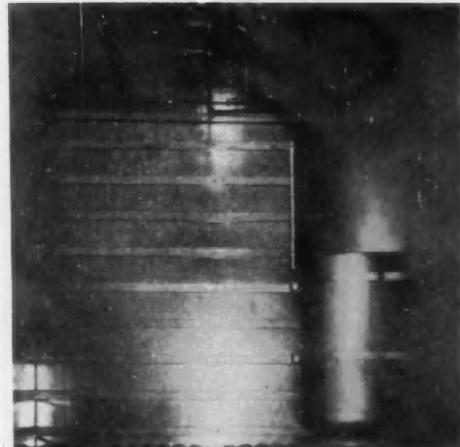
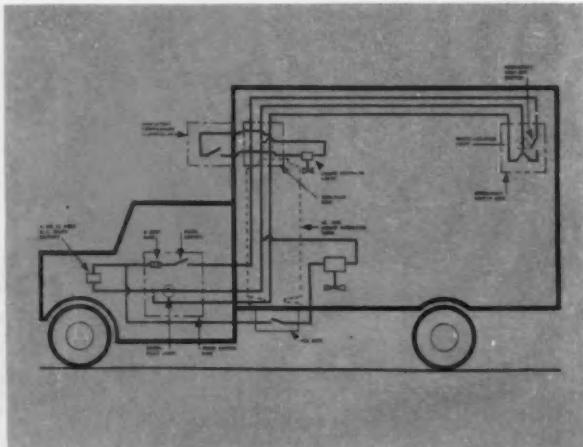


Diagram illustrates layout of components needed in reefer using Linde's liquid nitrogen refrigeration



Liquid nitrogen has several properties which can make it ideal in the food industry: One pound of it will absorb 85 Btu when it changes from liquid to gas. And the cold gas circulating in the cargo compartment will absorb an additional 80 Btu per lb. In addition, Linde says it gives uniform cooling and prevents formation of localized snow and ice. With a liquid-to-gas expansion ratio of 1-to-610 at 0 deg. F it leaves no room for heat. Large areas to permit cold air flow and efficient heat exchange are not needed, says Linde. "Polarstream" actually is most efficient with a minimum of airspace, Linde adds.

As either liquid or gas, nitrogen will not harm foodstuffs or the consumer. It is also safe for the operator. Dispersion of air into nitrogen is so rapid the operator can enter the insulated cargo compartment soon after opening the doors.

Here are other advantages Linde lists: The apparatus is light—650 lb when filled. Also, installation of the system is quick—normally no more than one day on an already-insulated box.

The cost picture

Linde says "Polarstream" operates virtually free of maintenance cost, and its operating cost compares favorably with other in-transit refrigeration methods. Major item in the operation boils down to the volume of liquid nitrogen consumed, Linde says.

One way Linde suggests for saving nitrogen is through use of movable inner doors to cut down on space necessary to cool as cargo is delivered.

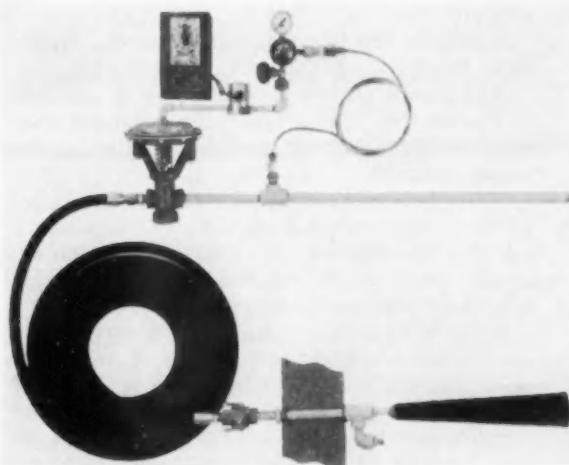
The system has been tested by the Agricultural Marketing Service. For a free copy of its report, write the Marketing Information Division, Agricultural Marketing Service, U. S. Department of Agriculture, Washington 25, D. C. Ask for report AMS-426, "Test of Liquid Nitrogen Refrigeration System Installed in Frozen Food Delivery Truck."

Another approach—dipping containers

Another method of nitrogen-cooling cargo is the "LiqueFreeze" system developed by the LiqueFreeze Division of Isbrandtsen Steamship Co. Containers of frozen cargo in transit are said to remain frozen for up to 45 days with no additional cooling!

Insulated plastic containers are loaded with frozen cargos and immediately dipped into a bath of liquid nitrogen (minus 370 deg F). The container cover is then sealed, not to be opened until it reaches its destination.

or CO₂ precooling



Liquid Carbonic recommends installation of this apparatus in a reefer for its CO₂ precooling system

TEMPERATURES inside reefers can be reduced from above 80 deg F to well below zero in less than five minutes with a new liquid carbon dioxide truck precooling system.

That is the claim of Liquid Carbonic Division of General Dynamics Corp., Chicago, for its "Cold Shot" system.

It can plunge temperature-readings inside trailers as low as minus 110 deg F. Two "Cold Shot" methods are presently in use:

- The truck post system which requires permanent piping and apparatus in the trailer;
- And a portable system by which any reefer may be precooled in about the same length of time.

The truck post method employs piping and small horns or nozzles which are permanently attached inside the trailer. Low pressure liquid

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REFRIGERATION

How to get the most from your

THE TRUCKER-SHIPPER relationship in refrigerated transport is frequently neglected on two fronts—

First, the often-inconsistent use of the equipment itself.

And second, loading and unloading techniques.

The two industries concerned—shippers and carriers—have demonstrated that both areas are major headaches.

When both parties concerned discussed their problems recently at a special perishable commodities meeting of the Pennsylvania Motor Truck Assn., there was some pretty straight talk about where the fault lies.

It lies with both, it seems. It's just another area in which the shipper and his agents must work with the trucking industry to solve some pretty sticky problems.

The seminar was set up so carriers could get the criticism at one blast. They did. In fact, because of the nature of some of the comments, the speakers asked not to be quoted directly. But their remarks were significant.

Said the operator of a large chain of food

stores concerning loading and unloading procedures: Warehousemen and carriers should establish daily schedules for delivery . . . then adhere to the schedules, including the time of unloading itself.

He admitted that under normal operating conditions, this is almost a fantastic request. But he offered these significant points in his argument:

If three trucks are in line to unload at a dock, and if each requires one hour to unload, then the third must wait two hours before starting the operation.

To complicate the situation further, if each of the first two trucks is delayed an extra half hour, the third truck must wait three hours. Who pays for the waiting time? Who pays for additional helpers to speed up the unloading time? And wouldn't the extra helpers be worth it to the trucker to get his vehicle back on the road?

Of course if the trucks could have been scheduled an hour apart, and if they unloaded on schedule, nobody would be stuck with delays.

The gentleman went on to point out that the



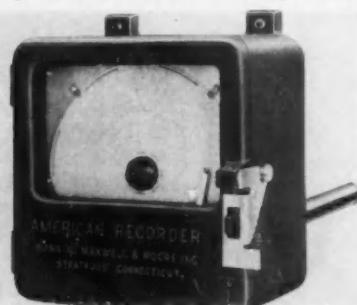
in reefer equipment

Foamed insulation

is described in the article, "Will Foamed Insulation Help?" Your best bet in getting further details for your particular operation is to contact your truck body and trailer makers.

Several other new developments in refrigerated transportation are described here and in the articles in this special 16-page report. Use the free reply card inside the back cover to get more details on any of them.

Recording thermometer
from Manning, Maxwell & Moore, Inc., Stratford, Conn., has a seven-day hand-wound drive. Temperature



range is from -40 to +120 deg F. Door to chart can be locked to prevent tampering with permanent record of refrigerated haul. For more details, circle 358 on the reply card.

Reefer bodies

which use foamed insulation (described under the headline "Here's a Reefer Body—Rated and Foam Insulated") are available from the Haskelite Division, Evans Products Co., Plymouth, Mich. Circle 360 on the reply card for more details.

Liquid nitrogen

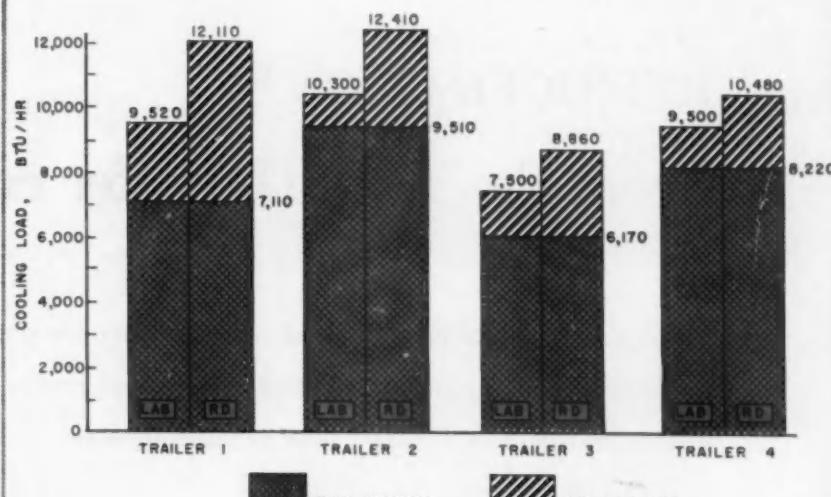
refrigeration system as developed by Linde Co. is described in the article, "You Might Try Nitrogen Freezing." For more details circle 361 on the reply card.

Liquid nitrogen

system as developed by LiqueFreeze Corp. of America is also described in the article "You Might Try Nitrogen Freezing." For more details circle 362 on the reply card.

EQUIPMENT

Extra refrigerating loads due to air leakage are indicated by black diagonal lines. Blue area shows typical cooling demand due to heat transmission through body. Smoke bomb tests show greatest leakage underneath where walls join floor, says National Bureau of Standards



efficiency could again be greatly increased if the three loads could have been consolidated before arriving at his dock. Nine times out of ten it's not a full load coming in, but a partial load. Result: Waiting time and jockeying time. But with consolidation, the whole load could be dumped on schedule.

He made two proposals. First is to establish LTL consolidators operated jointly by local carriers. He cited the success of United Parcel Co. in consolidating single package pickup deliveries.

Second suggestion was to set up key points for shuttle service to and from warehouses. They

could be truck stops or jointly-owned facilities like those mentioned earlier.

In the interim, however, he suggested that carriers' supervisory personnel and dispatchers study their customers' operations. They should know the procedures of the warehouse and the facilities available for their trucks and personnel. Then the time-in and time-out stamp would be a tool for the dispatchers, rather than just a means of assessing delay charges.

It particularly rankled him that so often his warehouse was stuck with delay costs. Do away

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Carbon dioxide
pre-cooling method (in the second half of the above article—"... Co. Precooling") was developed by Liquid Carbonic Division, of General Dynamics Corp. For more details circle 363 on the reply card.

Re-insulating
your present refrigerated trailers with foam insulation might be possible. Chase Chemical Corp., Pittsburgh, Pa., tells CCJ it has equipped itself to do the job on a prototype basis. For more information circle 364 on the reply card.

Refrigeration units
from Thermo King Corp., Minneapolis, Minn., come diesel-powered (as described in the article on Emery Transportation Lines) or propane-powered

(as described in the article on Alterman Transport). For details, circle 365 on the reply card.

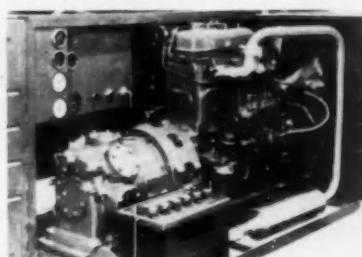
Refrigeration unit
from Worthington Corp., Harrison, N. J., maintains temperatures as low as -10 deg F, or can double as a trailer heater. Model TDU-800 is a two-unit system with a diesel-driven condenser and a vertical air flow

evaporator. Defrosting is automatic. For more details circle 359 on the reply card.

Recording thermometers
from Partlow Corp., New Hartford, N. Y., give permanent proof of reefer temperatures (in the article "From Emery: LTL Reefer Control.") For more details circle 366 on the reply card.

Refrigeration manual
from Sumner Industries, Inc., Sumner, Iowa is, in the opinion of CCJ's editors, one of the most complete yet published. It discusses the problems of trailer refrigeration from basic heat data to servicing and inspecting reefer cooler systems. For more information circle 367 on the reply card.

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REFRIGERATION

From Emery: LTL reefer control

**Two-compartment refrigerated trailers solved a problem
for shippers who needed regularly scheduled reefer service—
but could not ship a trailer load at any one time**

**By Rollin F. Allyne, Manager of LTL Perishable Department
The Emery Transportation Co., Chicago**

EMERY TRANSPORTATION started a unique service for LTL frozen food shippers about a year ago. Through it, the customer may be sure of scheduled delivery of his products at AFDOUS-recommended zero temperatures.

Emery set up the service as an addition to its regular fleet of about 800 TL refrigerated trailers between the Midwest and the Eastern Seaboard.

The new service handles LTL shipments in a 0°F. freezer compartment—while the rest of the trailer is loaded with non-frozen cargo.

The key to the two-temperature feature is a movable bulkhead. It has a thermostatically-controlled fan near the ceiling on one side, and an air-return opening on the other. The thermostat governing the fan is on a rear wall near the ceiling. When operating, the fan sucks sub-zero air from the forward freezer section into the rear "cooler" compartment.

On all LTL schedules, drivers are instructed to set the thermostat in the forward freezer compartment between -7° and -10°. The rear section for non-frozen cargo is usually held at 35°.

High cooling capacity

Specifically, the trailer measures 40 ft and is insulated to effect a heat gain characteristic of approximately 10,000 Btu per hour under a 100-deg differential. The refrigeration unit is a diesel-powered underslung Thermo King with a capacity of about 18,000 Btu per hour at 100° outdoors and 0° in the trailer. This equipment

easily meets the proposed AFDOUS standards of 0° protection in the entire trailer.

A significant factor in the success of Emery's LTL Perishable Department has been its use of recording thermometers. (There are two outside dial thermometers. One indicates the temperature in the freezer compartment, the other in the cooler compartment.) Each LTL trailer is equipped with a Partlow Model TRW weather-resistant recording thermometer mounted on the outside trailer nose. The thermometer's sensing bulb is in the return air stream of the evaporator unit on the inside trailer nose—the warmest spot in the freezer section.

The recording thermometers have greatly contributed to the success of this service. First, they show temperatures throughout a given run, providing valuable sales aid in demonstrating the equipment's capacity. Also, the chart serves as protection against unjustified claims. And finally they help spot slowly developing defects which could turn into road failures if not corrected in time.

It is quite convincing to show one of these charts to a customer or prospective shipper. What better way to demonstrate the capabilities of your equipment? And upon completion of a shipment, we will supply photo-copies of the original chart, upon request, to the shipper or consignee.

The Partlow charts are accurate because the instrument withstands the jolting and vibration of truck transport. The instrument sensing bulb and capillary to the recorder are filled solid with mercury, eliminating any free play of the pen

arm. It is so steady it is impossible to tell from the chart whether the trailer was in motion or not.

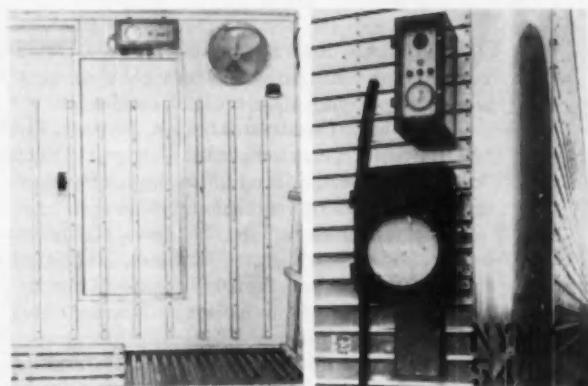
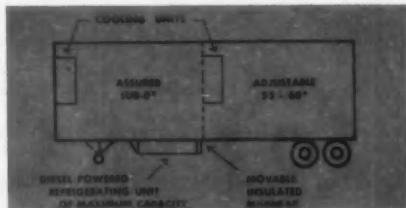
When it comes to claims, the LTL drivers are instructed to make spot checks of frozen product temperatures at the time of loading into the trailer. But it is possible that some "hot stuff" might get by them. We need protection.

For example, let's say some of the product is 18° at time of loading. Even the best refrigeration equipment is not designed to reduce the product temperature very much in transit. An 18° shipment might be 15° or 16° at delivery. If a consignee has a policy of accepting nothing higher than 10° at delivery, he might refuse the shipment. And he might claim we were responsible for the temperature loss.

Now, however, we can show him the Partlow thermometer chart—positive proof the temperature was maintained in the freezer compartment. This kind of protection for the carrier will become more and more necessary if the AFDOUS-recommended temperatures become requirements.

Operating with this job-engineered and automatic equipment, our LTL department has steadily increased its business. We have not missed a scheduled departure since the inception of the service in April 1960.

Every Tuesday and Friday, a scheduled LTL trailer leaves Chicago for deliveries on Thursdays and Mondays in the Eastern destinations.



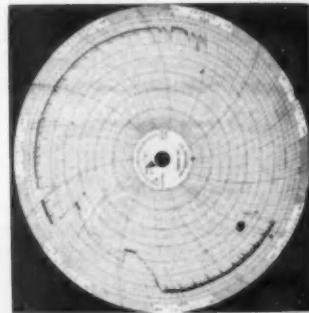
Here's the equipment Emery uses in its LTL operation. At top is the reefer trailer. Note the double doors

Diagram shows position of refrigerating units, movable bulkhead, and the zero and cooling reefer compartments

Next pair of photos shows detail of movable bulkhead, left, and the nose-mounted recording thermometer, right

Chart, right, shows how Partlow recorder keeps accurate record of sub-zero temperature in freezer compartment

Author, left below, uses temperature chart to sell LTL service to Armour's transportation head, Donald A. Chute



Similarly, every Tuesday and Friday a west-bound schedule departs from our Jersey City terminal. We use refrigerated storage rooms at each terminal with pickups and deliveries made by refrigerated vehicles.

While LTL shipments vary from 50 to 10,000 lb. or more, the average shipment is 2000 lb. Usually, about half the tonnage hauled is frozen foods, with the remainder non-frozen. This varies—hence our use of movable bulkheads.



REFRIGERATION

At Alterman: TRAINING is the key

Alterman Transport Lines gives new drivers a one week reefer training course and follows up monthly with a one-day refresher program. Here's what they learn

VYOU CAN HAVE the best and most modern reefer equipment, but you won't get your money's worth unless you have trained employees.

That's why COMMERCIAL CAR JOURNAL'S Mobile Editorial Team scheduled a stop at Alterman Transport Lines, Miami, Fla., before wrapping-up this special refrigeration report.

Alterman goes after the best equipment—builds its own insulated trailers, refrigerates them with propane-fueled Thermo King units. But the story that the Editorial Team wanted to get was on Alterman's training program for handling refrigerated perishables. Here it is....

Special training required

Drivers soon learn that there's more to it than just setting the thermostat and letting "her run." The training program starts with the basic

Driver training also includes special training on driver logs and equipment condition reports. All leased tractors must pass a rigid inspection once a month. Alterman also has a unique trailer inspection and servicing program—in addition to its special shop for building new reefer trailers. More on these facets in separate articles later this year.

theory of refrigeration (to make cold you take heat away) . . . ends up with how to handle the customer. They've got to pass written examinations before they're certified for regular duty.

Alterman is an irregular route common carrier with operating rights in 37 states. It operates 250 road units, did a gross business of better than \$7 million in 1960. With headquarters in the "citrus belt," the fleet carries a lot of fresh fruit and vegetables and frozen orange

Editors Shea and Winsor (left and right) get details from Maint. Supt. Irv Breslow and Pres. Sid Alterman



juice, etc., on its runs north and west. Return trips south are to a large extent meat cuts and "swinging beef." Consequently, almost all trailers are built with meat rails.

Special terminal freezers

When the Editorial Team visited Alterman's headquarters, one of the first things it discovered was the large "refrigerator-freezer" adjacent to the main loading dock.

Fleet President "Sid" Alterman takes great pride in this set-up, says it's unique in the refrigerated transportation industry. He now has them at eight major terminals. He is quick to point out that these are not warehouses, but in-transit storage points primarily for LTL freight that arrives at a terminal at hours when it can't be delivered.

Each "box" has three large compartments (pictured below). One is at 0 deg, next is at 34 deg, last is a candy room kept at 65 deg. As a result, Alterman can quickly load or unload incoming freights into the "box." There's no need to run a reefer all night just to keep a small freight shipment cold 'til deliveries are made in the morning. Naturally, there's never any freight just sitting on the dock.

Training program itself

Driver training in cargo handling started 25 years ago shortly after the company was formed. Alterman soon discovered drivers must know basic theory or refrigeration. Consequently, key of the training program is a sound grounding in refrigeration techniques. Training is handled by Safety Director Sam Gillen and his assistant Floyd Syrcle. It includes:

- A one-week course in loading, transporting and delivery of frozen goods.

- A 12-section driver's manual with three sections devoted exclusively to loading procedures, temperature requirements and temperature records.

- A refrigeration course in operation, driver maintenance and troubleshooting Thermo King units.

- A loading guide with humidity and temperature requirements for all perishables. (A brief check list is shown on next page.)

- A one-day refresher course on refrigeration handling and driver safety. Each driver team must attend once a month. Any new developments or techniques are introduced at this time.

One-week course and driver's manual necessarily duplicate each other to an extent. But they also act as a double check. Drivers not only learn it in the school and are tested on it, but each man has the basic information for reference at all times in his driver's manual.

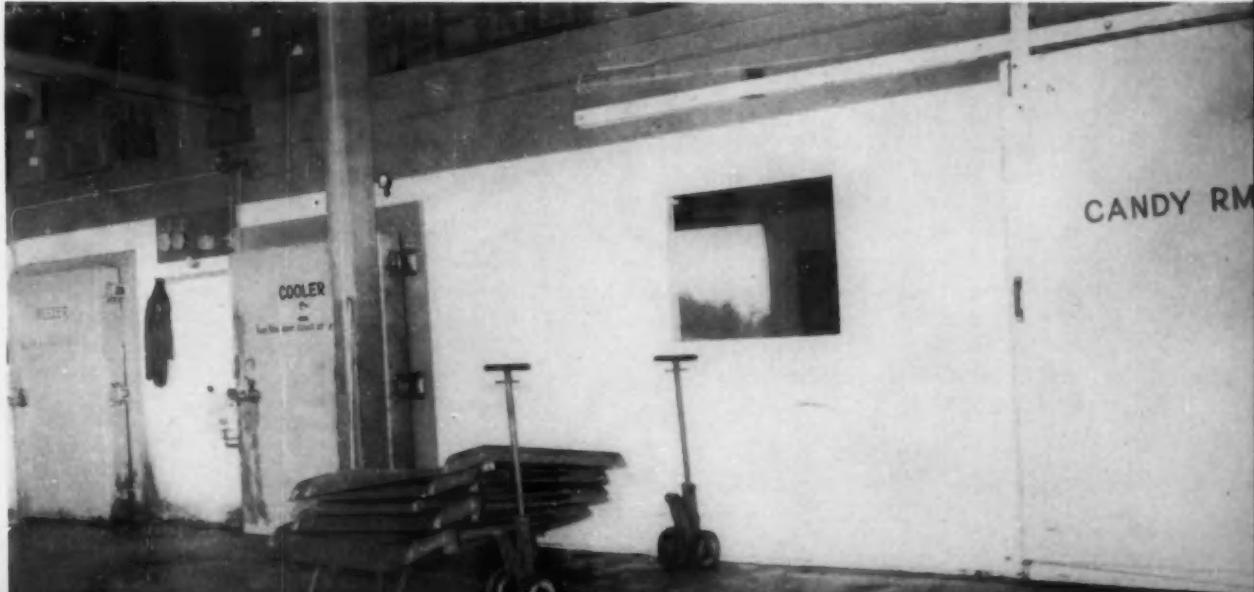
Under basic refrigeration, a new driver learns where heat comes from and how it affects his load temperature. He soon realizes that on a very hot day, he must set the reefer thermostat a few degrees lower than the desired temperature when traveling long distances at high speed. But when he stops, he must reset the thermostat since the same conditions no longer apply.

He also learns about air circulation. He finds out that proper circulation is an important requirement in maintaining uniformly cold temperatures throughout the trailer.

Temperature and humidity

Once he has mastered the basics, Alterman then teaches him "the facts of life" for each type

In-transit cargo goes in either 0-deg freezer, 34-deg chiller or 65-deg candy room until ready for delivery



TRAINING

Continued

of commodity the fleet hauls. This includes temperature and humidity requirements, loading techniques for special loads such as hanging beef, and handling procedures for fragile cargos (see check lists below).

Next, Alterman concentrates on driver responsibilities—particularly customer relations, special requirements and schedules. To help him here, Alterman furnishes each driver with a camera. This serves many purposes. Drivers use it to take pictures of damaged cargo, accidents, etc. It's also used to get good action shots for the fleet's public relations program and house organ "The Alterman Axle."

Drivers learn how often and where to take

load temperatures, how to record them. Likewise, Alterman requests that receivers record temperatures when they accept delivery. Drivers are responsible for putting these on bills of lading.

Last but not least, Alterman stresses cleanliness. Throughout the training program (and in the driver's manual) the fleet reminds its drivers that they are food haulers. Equipment must be kept clean inside and out. Drivers' appearances must be clean and neat too.

To standardize its training program and to better its customer relations, Sid Alterman corresponds and visits regularly with many shippers. He finds out any special problems they are having, solicits suggestions he can incorporate to improve service. Based on these, he adds new ideas and techniques to the one-day monthly training course. He also tells drivers of new requirements or special problems involving specific customers.

Check list for handling—

FROZEN FOODS

- Wash and/or steam-clean trailer inside and out prior to loading.
- Pre-cool trailer to +20 deg F.
- Check inside-case temperatures while loading using thermometer (front, center and rear of load). Record figures on delivery ticket.
- Do not accept frozen foods which are above 0 deg ready for loading.
- Secure load properly in front and rear to prevent toppling. No cartons forward of nose bulkhead.
- Do not load within 18-in. of ceiling, or directly in front of air blast from reefer.
- Do not block corrugated flooring. This reduces air return, cuts down circulation. Take care not to damage elastic air chute ("Maggie's drawers").
- Maintain load at 0 deg or lower in transit.
- Call receiver day before delivery giving time of arrival.
- When ready to unload, take product temperature readings near top and bottom of load at both side and rear doors. Use your thermometer and receiver's. Close trailer doors for five min. to get accurate readings. Record figures on delivery ticket.

FRESH MEAT & PRODUCE

- Clean trailer and pre-cool to 35-40 deg. Know meat temperature requirements: 35 deg for carcasses; 33-36 deg for fresh meat cuts including bacon and ham; 26-28 deg for cured meat including pork sausage and liver.
- Know requirements for fresh fruits and vegetables. Temperature varies from 32 to 50 deg. Know moisture requirements for these perishables. Add "blown ice" to top of load to give proper humidity.
- Swinging meat loaded on trailer rear tends to jump off hook. Make sure trailer is loaded with carcasses paired boneside to boneside, meatside to meatside. On outside rows, always keep boneside facing trailer wall.
- Use long hooks to hang forequarters, short hooks for hindquarters. Add extra quarters at center of stack to tighten up load and prevent crosswise slack.
- Use Dunnage on top of barrelled meat. Drum edge cuts bottom out of boxes stacked on top. Spread weight over broadest area possible.
- Rear of trailer is roughest riding location. Select sturdier cargo for this position. Avoid items like cottage cheese in cartons which damage easily.



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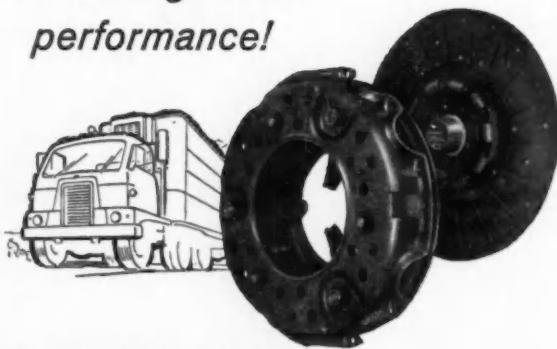




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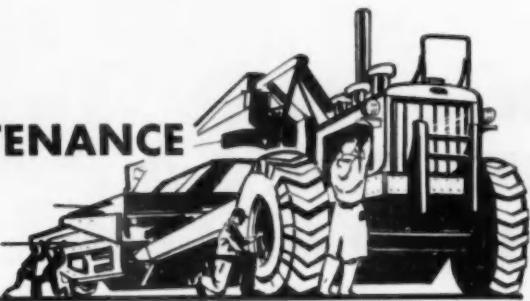
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DIVISION
OF
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WARNER

CONSTRUCTION FLEET MAINTENANCE



COMPILED by the EDITORS of COMMERCIAL CAR JOURNAL

AT YOUR SERVICE . . .

Never attempt to start a diesel that has been stored without first cranking it over with injectors or glow plugs removed. Under many storage procedures, crankcases may be filled with preservative oil. Combustion chambers may be rust-proofed with preservative oil. Cranking it over with injectors out may produce discharges of water, oil or preservative compound.

Attempting to start the engine without blowing it out first might result in a hydraulic lock. Crank the engine over with starter until liquid is no longer ejected from openings. Then, inspect the intake passages and manifolds for thickened preservative oil. Oil accumulated in this condition might melt when the engine warms up and cause a runaway.

When installing pistons in cylinder liners on G.M. diesels, insert pistons into the bottom of liners—not the top. G.M. says forcing the piston into the top of the liner allows the sharp wiping edges of the oil control rings to contact the chamfer on the upper rim of the liner. This can damage oil-control rings and cause high oil consumption or early engine failure. Recommended procedure is to stand the liner upside down on a soft wood block. Then install the ring compressor on the bottom of the liner so that it tapers up. Stagger the ring gaps properly on the piston, then slide it carefully through the compressor and into the liner until the piston head bottoms on the wooden block.

Avoid excessive wear on

main electric switches of Model B Tournapulls by making sure all three contact points make contact at the same time. Maximum variation between any two points should not be more than 0.015 in. This means that top and bottom portions of each moving contact point must contact mating stationary point at same time within the 0.015-in. limit.

When installing new magnet and arm assembly, moving or stationary contact points, or replacing complete main switch assembly, shims may be required

between arm and moving contact holders. If incorrect angle causes top or bottom points to engage first, replace holder.

Points should be checked for pitting every 500 hours. Pitted or burned points reduce current flow to motors. Engine speed should be kept near high idle when operating any of the electric motors to reduce excessive burning and pitting of points. Keep dust blown out, panel cover on, and wash out any grease with carbon tet.

Tools tipped with hard tungsten-carbide are common in all industries from machine shop to earth boring, but care and procedures are less well known. Since such tools are expensive, it's good for mechanics to get the most out of them by increasing tool life.

Tungsten-carbide tipped tools should be sharpened when slightly dull and at more frequent intervals. This will double their life as compared with a tool that is run dull. Dull tools call for increased power, too.

Temperature shock causes hairline cracks and shortens life. Consequently, wet grinding is always recommended to keep tool cool. Changing from dry to wet grinding can be easy and inexpensive with a shop-built contrivance.

If tools must be ground dry, use a wheel with a coarser grit and softer bond. Tool should be set aside to cool when it becomes too hot to touch. *Never quench it.*

Most pedestal or bench type grinders of 10-in. wheel capacity and running at least 1700 rpm are satisfactory if the proper wheels are used.

For grinding the stock of a bit, use an aluminum oxide wheel, 60 to 80 grit, 1-in. face. For grinding the tip of a bit, use a silicon carbide wheel, 80 grit. Certain other types of wheels are recommended for dry grinding. Grind the least amount possible on the silicon carbide wheel as steel loads this type of wheel, causing glaze and frequent redressing.

Rock bits, core drills, and roof drill bits in mining have their own sharpening designs recommended by the manufacturer. It's smart maintenance to follow their grinding diagrams. Your aim and that of the manufacturer is the same—more hole per dollar.

New Course Will Turn Out Better Mechanics

Based on the success of its operators school, Texas A & M will offer a one-year heavy equipment mechanics course late this year



A partial view of the equipment yard shows the variety of sizes and makes of equipment used to train operators



Push-loading through heavy sod is one of many problems students must tackle during the 4-week scraper course

TEXAS A & M, College Station, Tex., has announced a one-year heavy equipment mechanic's course. COMMERCIAL CAR JOURNAL got wind of it through L. H. Houck, one of CCJ's field construction editors. He reports the excellent success the college has training heavy equipment operators. Since the school was started over three years ago, more than 300 students have successfully completed the courses.

This is no local operation. At last count, students from 33 states and three foreign countries have traveled to Texas and put their money on the table to take one or more of the six courses offered.

With this successful record

already behind it, L. H. Houck went to the college to get details on the operators courses, and to learn in more detail about the new mechanic training course which will help meet contractors needs for skilled mechanics.

You're the winner—for the school can be a source of competent mechanics and operators or you can send your own personnel for training.

The Highway Construction Equipment Technicians and Operators School at Texas A & M College is headed by A. L. Kramer, coordinator of heavy construction equipment training. Under his direction, the new one-year heavy equipment mechanic's course is now being readied. Target date for the first class is by the end of this year—or just as soon as the new 5-bay facility is completed which will house the school. It will own the major part of the shop equipment, keeping loaned equipment to a minimum.

"The objective of the mechanical course," said A. L. Kramer, "is to develop a young man to an employable state with extremely good grounding in shop procedure and correct disassembly and assembly techniques.

"After completing the course he will also be able to decide on what is a re-useable part or what will have to be replaced. He will know how to assemble bearings and adjust all mechanisms. However, he will be by no means considered a finished mechanic. The graduate of our operators school is not considered a finished operator either; we feel, as do many of the operating engineers, that he is advanced by this training to an equivalent of 18 months of a working apprenticeship program."

The Texas A & M College has offered courses in construction engineering for 14 years. The Operators School itself was started in 1957 when the 160 members of the Texas Highway-Heavy Branch of the Associated General Contractors of America, Inc., became concerned about the impending shortage of experienced construction equipment operators. Increase in highway construction, with the expanding Federal program of Interstate highways, would require additional equipment. A shortage of operators could be a major obstacle.

A state survey showed there were not enough operators to supply the anticipated demand. And as expressed by many contractors, it would be economically unfortunate if they had to hire inexperienced men. The potential damages to the equipment could be disastrous. Bidding with a question mark representing



Most cranes have shovel, dragline, clamshell and hoe. Student here learns to trench with backhoe



Practical instruction also includes cable reeving on cable-operated dozer used at the school



Scraper loading techniques, including push-loading, are emphasized in the motor grader course. Aim is to teach all students coordination, the whys and wherefores of economical earthmoving

trained and experienced labor can be very hazardous.

Contractors discussed the problem with the Engineering Extension Service of the A & M College because of their excellent record of training in other fields. The operators school was the result.

First courses were started on

Nov. 11, 1957, with an enrollment of 14 students, 11 of whom were sent to the school by contractors. Total graduates at the beginning of the '61 term was 322.

Kramer reports that placement of the graduates had been extremely good, although the school offers no regular placement service. The average age of applicants is 32.6 years. The youngest graduate was 16 and the oldest 63, both now successfully employed. "What is the background of students and do many take the courses through the help of contractors?" Houck asked. Kramer said the main background was farm or ranch with some exposure to mechanics. Next largest group were sons of contractors.

Acceptance of the school by AGGA and contractors generally has been quite favorable. But various locals of operating engineer unions have been less enthusiastic, believing that their apprenticeship program requiring four years job experience as a minimum is better. Kramer said he has had some favorable reaction from the national offices of the union and some local representatives have recently been working with the school.

Entrance requirements to the operators school are not low. Students must be at least 16 years old, have a high school education, or prove

an equivalent technical and mathematical aptitude. They must show serious interest and ability, and prove that they can profit from instructions offered. Physical capacity is also a requirement.

They can be washed out for dozens of reasons even inattention, so places in limited enrollment are filled by serious students only. It's all business.

Six basic courses each four weeks long are offered. Three cover use and application of earthmoving equipment such as crawler tractors, motor graders and motor scrapers. Three more are offered in the use of power cranes, shovels, hoes, and draglines. The related theory and technical subjects include soil mechanics, principles of mechanisms, earth moving economics, land clearing terrain measurement, road engineering, elementary applied physics, basic applied mathematics and social sciences.

Only qualified, experienced instructors are used. They are chosen, Kramer reports, for their ability to teach as well as for their own skill in operating the equipment.

School is in session eight hours a day, five days a week with alternating classroom sessions and actual operations on undeveloped tracts near the college campus. Instruction is given on the actual machine.

Kramer reported that the school is moving forward toward all completely school-owned equipment. It now owns 33 pieces of powered equipment, has nine more on loan from leading manufacturers. These are crawlers, motor graders, motor scrapers, front-end loaders, cranes and shovels—both track and truck-mounted.

Construction Fleet Shop Hints

Here are more shop-built shortcuts gathered from construction and off-highway maintenance shops. Look them over closely to see if they can help you cut your fleet's maintenance and repair costs

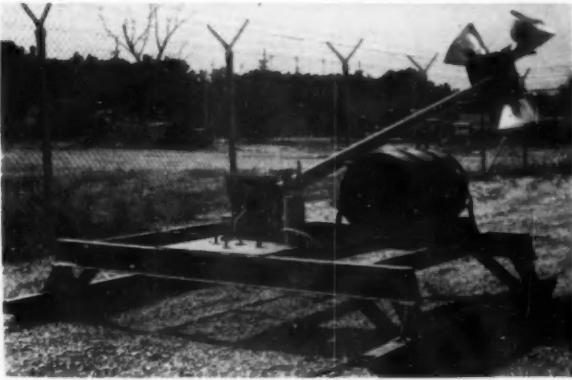


Hinged boom on the back of this service truck was originally on the front. But W. R. Thomas, master mechanic, Cameron & Joyce Construction Co., Keokuk, Iowa, discovered it worked better and could lift much more when mounted in the rear. In actual use, it isn't necessary to fold the boom out. Merely hook onto the load, move the truck up a few feet, and the boom aligns itself. Backward movement is regulated by an adjustable chain. Truck has a one-ton hoist, 250-amp Lincoln electric welder with 110-volt generator for tools and lighting. Side bins give ample tools and parts storage. Truck is on the go much of the time, carries a good stock of spare parts.



A track rolling machine is one of the many shop hints credited to the shop crew at Dean Machinery Co., Kansas City, Mo. It's just outside the track repair bay where it's used to roll up crawler tracks so they can be secured with wire for easy lifting and stacking in the yard or on truck beds. Two scraper gear boxes slow down and beef up the drive of a $\frac{1}{4}$ -hp electric motor. Out of the second gear box, there's a $1\frac{1}{2}$ -in. shaft around which the track winds into a compact roll.

A mobile crane drops a track in front of the machine with the first link just under the projecting shaft. The two arms on the shaft turn down into the track link. Then a steel bar is fitted into notches in the ends of the arms and pass through the open pin holes of the first track link. Rest of the track is forced to follow the first link as it is drawn up and around the rotating shaft. When the roll is completed, it's wired together. Then the steel bar is removed from the first link so the rolled track can be lifted off. From all reports, it works real well and is a big time saver.



Shop at the J. A. Tobin Co., built this king-size press at right to handle bulky parts. Beam suspending press head can be raised $4\frac{1}{2}$ ft above base supports. Hydraulic press head is on a trolley running on flanges to the beam so it can move sideways as well as up and down. Fore-and-aft movement is controlled in the base supports. These are moved by loosening nuts in the direction of travel on two $1\frac{1}{2}$ -in. bars. They are threaded their full length so the plates can be forced in and out by tightening nuts on the opposite side. Flexibility of this unit permits pressure to be applied anywhere over a wide area.



A little ingenuity at the branch shop of American-Merrietta Construction Co., Carbondale, Kan., produced two useful shop hints to speed shopwork and to simplify chain storage. First is a shaft checker (above) which shows if a shaft or bar is bent or out of round. It has two identical stands made from 3-in. pipe with a narrow box welded to the top to hold large ball bearing races edge to edge. Stands are placed parallel to each other. The bar or shaft is laid across the V's of the races. If checking for straightness, place the stands at the ends of the bar. To detect flattening or ovalness, put one stand at the end, the other at the point you suspect is distorted. When you rotate the bar, even a slight distortion shows up as a noticeable wobble.

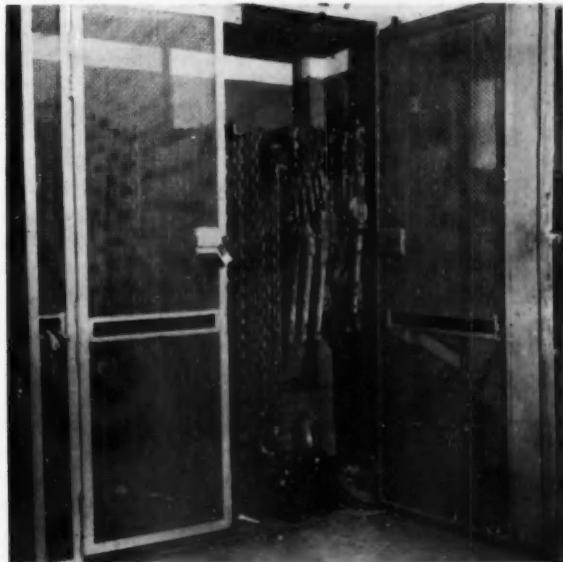
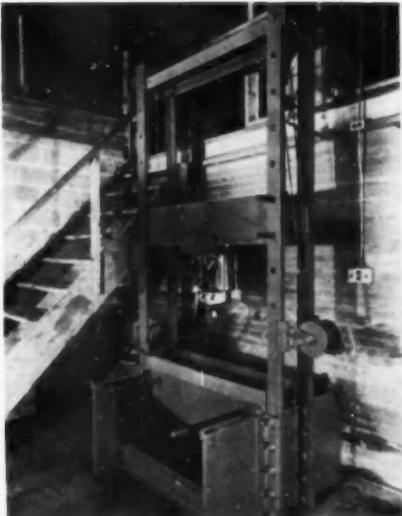
To store chains, load binders, hydraulic jacks and pry bars, the shop made a special locker (pictured at the right). It permits individual storage and visual inventory for fast identification. There's no digging around trying to find the right length or size chain. Locker is made of heavy screening.

Three 1000-watt bulbs can flood any temporary work area for J. A. Tobin Co., Kansas City, Kan., thanks to this portable light stand the shop built. Lamps face three ways from the top of the telescoping pole that can extend up to 25 ft. It's shown here in its contracted position and tilted to the rear for travel.

Pole is mounted on a steel sled. An 18-in. square plate at the base of the pole is hinged on one side to a plate on top of the sled. The three other sides are bolted down except during travel. Sled is $7\frac{1}{2}$ -ft wide. Frame and runners are 6 in. x $\frac{1}{4}$ in. I-beams with the ends of the runners flanged over for smoother sliding. Tow cable fastens to U-bolts welded to the nose of each runner.

Light tower has its own 3500-watt generator which is mounted on the left side next to the 30-gal fuel tank. Engine was removed for repairs when this photo was snapped. Climbing bars are welded to the pole to make it easy to get up to top to change burned-out bulbs.

Self-power feature makes the stand a valuable and useful piece of auxiliary equipment to have around for night work at remote locations.



How to PLAN for the Unexpected

Getting caught with "your pants down" is at best inconvenient and expensive for any contractor. But for a small operator it can be critical. This is why Clint Thompson budgets 10 per cent of his time for planning

By Bill Palmer

"**THERE'S NO ECONOMY** in running equipment until something gives and it *has* to be repaired! That's postponing a \$50 job until it becomes a \$500 job," shrugs Clint Thompson of Osage City, Kansas. "Field maintenance is seldom convenient. But a breakdown invariably means a long layoff for a key machine.

"For a small contractor this can be critical. We feel it's better to pull a unit for minor repair, or even adjustment, as soon as possible after the need is noticed.

"It is an important part of the site superintendent's job to see that temporary absence of key units does not cripple efficiency." Thompson is both job super and maintenance super in his small outfit. He operates about twenty trucks and earthmovers, leases up to a couple dozen more, depending on the job at hand.

He feels a site superintendent shirks his job if he isn't planning for equipment and personnel shortages. Mr. Thompson spends from 10 to 15 percent of his own time just planning what he will do to keep men busy and work moving ahead, in case of sudden temporary withdrawal of key equipment or men.

He always plans a job so there is a reservoir of "sidework" close to the "key-work". This way he can "borrow" a piece of key equipment should there be an unexpected breakdown on the main job. The only time he cleans up all the sidework in advance of starting more keywork, is when the remaining sidework is too far away to deal with it efficiently in case of key unit withdrawal.

Clint Thompson also plans his work so not all equip-

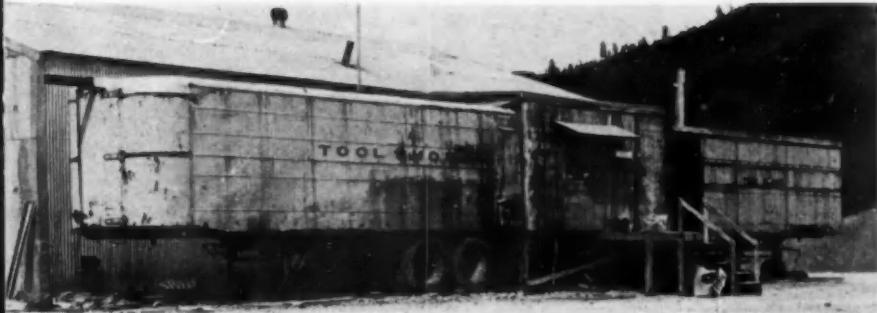
ment is tied up in keywork at the same time. This danger arises when two or more jobs are running at the same stage at the same time. This is where careful timing pays off.

When equipment is shifted to a new job, or new phase of a current job, Thompson *always* schedules a brief interval for equipment inspection and adjustment. "Granted there are only so many good working days in a season," he says, "but a grader, dozer or scraper in good condition can operate one gear higher than one that is ailing. Time sacrificed to a good tune-up is often made up in a single week through more efficient operation!"

Clint Thompson does not have a "hibernation period" each winter for rebuilding all equipment. Small jobs occupy much of his equipment whenever the weather permits even a few days work.

Because of the tight field maintenance program, mechanics have fewer teardown jobs in the winter. Equipment is almost always ready to take advantage of mid-winter weather breaks (this winter has severely tested this program, yet only a few weeks have passed without some work done). With less labor absorbed in major repairs, better attention is paid to the minor needs such as tune-up and touch-up.

Thompson concludes that the high percentage of planning time he allows has paid off handsomely. He almost never gets caught "with his pants down"—even when the unexpected happens. And if it happens once, he starts planning right away to prevent it from happening again!



Parts Department on Wheels . . .

- Reduces Equipment Downtime
- Cuts Shop Overhead
- Tightens Parts Inventory and Control

CLOSE BIDDING and rising costs have put the squeeze on equipment maintenance departments everywhere. Gibbons & Reed of Salt Lake City have greatly reduced shop overhead and parts handling cost in field maintenance and repair operations. They have converted two used 35 ft. freight trailers into completely stocked and carefully inventoried parts departments. These are set up on the job site with a small connecting office adjacent to the equipment shop.

"There are several advantages to a shop like this," explains Gibbons & Reed's Equipment Maintenance Superintendent, Adrian Cox. "As soon as we move onto the spread, we're ready to go—none of this tearing all over the county looking for the things we need to get our equipment moving.

"Second, it saves costs in downtime and maintenance department overhead. It gives us an efficient means of stocking in depth those expendable items that are never around when you have to set up a new shop on each job.

"This arrangement also reduces "shrinkage" of items like small hand tools, flashlights, spark plugs and oil cans. With the only access to these trailers

through the maintenance office which is built up between the two trailers, we can keep close control on all parts without difficulty.

"Probably the biggest advantage is a perpetual parts inventory system on 5 x 7 cards. This has helped us by letting us know when, what and how much to order. It has saved us a pocket of money by helping us to turn in obsolete replacement parts before the manufacturers discontinue allowing credit on them."

Wooden bins for thousands of replacement parts are built so parts can't fall out or become mixed while the trailers are on the move. Each bin is numbered, and shelves and cabinets holding high priced items are locked.

When moving onto a new job site, the 12 ft x 12 ft office is built up next to one side of the shop. Office floor is the same height as the two trailer floors. One doorway enters the office from the front, a second opens into the shop. It's only a matter of hours from the time the trailers arrive at the job site until the parts department is operational.



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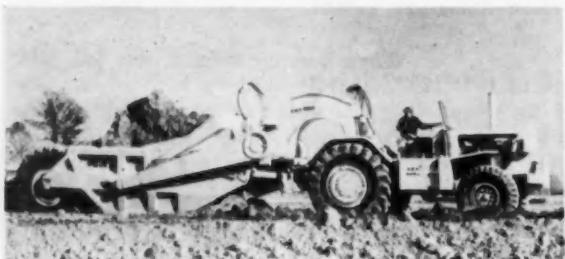


A 70-ton capacity semi-trailer for pit and quarry work has been announced by Challenge-Cook Bros. Inc., Los Angeles, Cal. It has 100,000 lb capacity axles and suspension, reinforced ribbed sides and a 70-ton triple hoist for dumping. Any conventional heavy-duty tractor with sufficient power can be used with the new trailer. Get more details by circling 303 on the reply card.

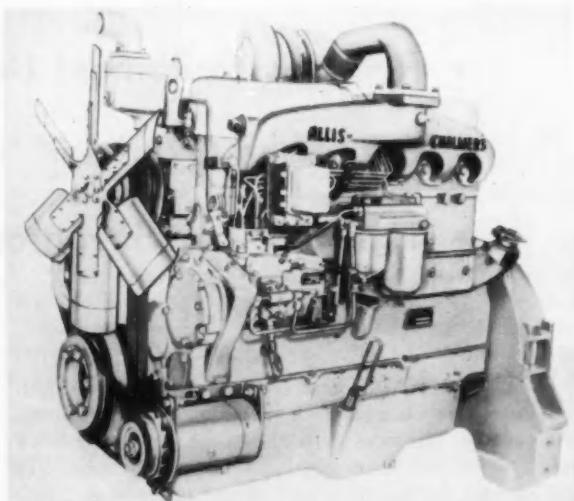
Allis-Chalmers has added two new diesel engines to its line. First is the Model 10000 rated 145 hp at 2200 rpm. Second is the turbocharged Model 11000 (pictured at right) which is rated at 210 hp. Both are 6-cyl engines with 516 cu in. displacement. They're offered as open or closed power units; as off-highway engines; packaged torque converter units, and for diesel-electric generator sets. Both engines feature the A-C direct injection, open chamber combustion system with controlled turbulence. Engines have aluminum steel-backed main and connecting rod bearings and alloy-steel valve seat inserts. Pump is the single plunger type which times and meters fuel injection. For more information, circle 301 on the reply card.

To learn what else is new in fleet equipment
check the "What's New" index on page 2

Caterpillar Tractor Co. has announced two new tractor-scrapers featuring a turbocharged and aftercooled 420-hp engine, and torque divider power shift transmission. Four-wheel unit is the 630 Series A, two-wheel is the 631 Series A. Engine is the 6-cyl D343, four-valve-in-head with individual porting to each intake and exhaust valve. Flywheel rating is 335 hp. 630A has top speed of 41 mph. 631A goes up to 31 mph. Scraper capacity is 21



Easton Car & Construction Co., Easton, Pa., has developed a new 37 cu yd, 55-ton capacity variable wheelbase rear dump trailer. The Model TS-3755 is adaptable for use with any suitable two-axle tractor, has two double-acting hydraulic cylinders to give a maximum dumping angle of 55 deg. As body is raised, wheelbase shortens automatically. Circle 302 on reply card for more details.



cu yd struck, 28 cu yd heaped. The 630A with 482C scraper (below left) holds 28 yds struck and 35 yds heaped. It's for use in easy loading material and long hauls only. Transmission has three speed ranges. Within each range, there's torque converter drive, direct drive and overdrive. Operator needs only to move selector lever from one speed range to another. For more details, circle 300 on reply card.



Maintenance cost study finds some 'yardsticks'

They concern fleet size, shop size, employees, where work is done—but also show need for Phase III of ATA-Budd research

IT'S NOT WHERE your vehicle repair work is done, or the size of your fleet, or even the amount of space or number of mechanics in your shop that controls the unit cost of vehicle repair.

What does influence repair costs has not been concretely established yet. But these other factors have been ruled out by the concluding part of Phase II in the ATA Foundation-Budd Co. study of truck maintenance costs.

You'll remember that the earlier report (Dec. '60, pages SR6 and SR7), showed 82 per cent of repair and servicing was done in a fleet-operated shop. Also that the average ratio was just under 10 vehicles per shop employee . . . and that enclosed shop space per vehicle averaged 47 sq ft.

In view of the new findings—that more or less of the above makes little difference in per mile vehicle repair and servicing costs—the significance is this: *The above averages are probably valid yardsticks.*

Yardsticks by implication

The influences that make a difference will show up in Phase III of the study. It's on the way. With it will come much more data and statistics so that the Foundation hopes to set up more "yardsticks" against which you can measure your own fleet's maintenance performance.

The findings in this concluding section of Phase II came as much as a surprise to the researchers as they probably do to you. They had rather expected some of the areas to have a controlling influence on costs.

Remember, however, that the size-of-the-carrier factors must be modified with the fact that

it's based on all relatively large carriers. The relative size factor did not enter into the picture among that group.

Ruled out by punch cards

This concluding section of Phase II was held up after the initial report was issued. Researchers hoped that re-programming their data processing machines and running the punch cards back through them would show which of the environmental factors had a controlling influence. The only thing that came from the delay, however, was to rule out the factors.

"No patterns were ascertained by plotting costs against the environmental factors which were presupposed to have a possible influence on cost," the report said.

They broke down per-mile costs for the carriers between labor and parts, and supplies. And as each was used as a variable, no consequence of their inclusion could be found.

In the past, for instance, it would have been thought probable that work patterns would tend to be more standardized if an employee group were large. This standardization, meanwhile, could help the companies make some large economies in their operations. The anticipated result, however, did not materialize when the tabulations were completed.

ATA is now entering into Phase III of the study: A fine-tooth combing to find the factors that do have a significant impact on maintenance costs. In it, ATA field representatives will microfilm sample unit records on individual vehicles.

(TURN TO PAGE 176, PLEASE)

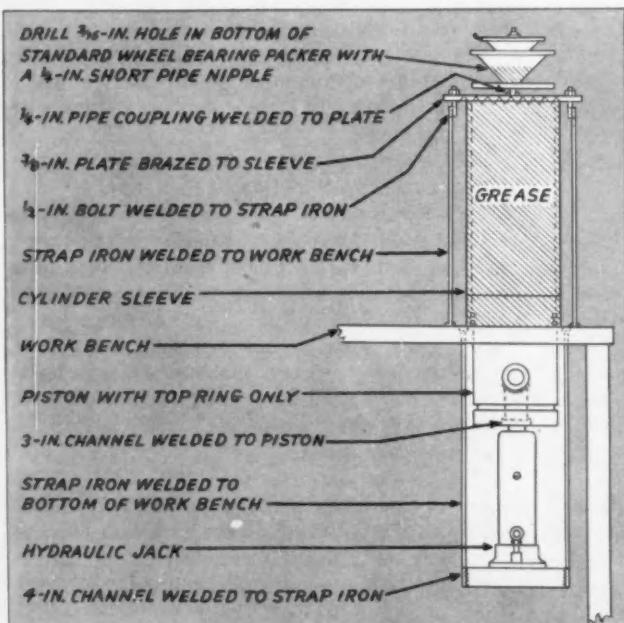
SHOP HINTS

—10→
DOLLARS

25
DOLLARS

Send us a short description and photograph or simple sketch of the shop-made maintenance short cuts you are using. We'll pay \$10 and \$25 to those who submit good ideas

From Eugene A. Thurm, Fischer Construction Co., Farmington, Minn.



To pack wheel bearings in less time and still do a thorough job, your shop can put together a handy packer like this one. To make it, all that's needed is a standard factory-made grease gun type bearing packer, an old cylinder sleeve and piston (model shown is from a D-8 Caterpillar tractor), pipe, coupling, strap iron, hydraulic jack and welding equipment. Drill a hole in the top of workbench big enough for the piston to go through and assemble as shown in the diagram.

Here's how it's used: The cylinder sleeve is filled with grease (this one holds 10 lb). The piston is forced up in the sleeve by the hydraulic jack. Pressure is enough to force the grease through the small holes in the bearing packer.

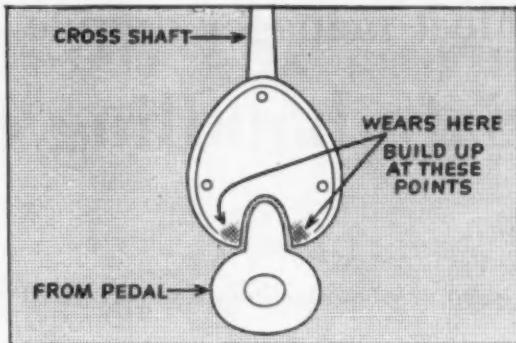
To refill with grease, just unbolt sleeve from top of workbench, pull piston out and refill.

From Jean Babine, shop supt., Harrison Delivery Co.,
Harrison, N. J.

To add longer life to clutches
in its fleet of International Metros, this shop uses
welding equipment instead of costly new parts.
Previously, new clutches were installed when wear
occurred. Now the wear is built-up with weld.

On the clutch linkage from clutch pedal to bell
housing, there's a cross shaft that runs from
chassis to bell housing. A yoke fits into the cross
shaft which swings the shaft to disengage the
clutch. This is where the wear occurs, as shown.

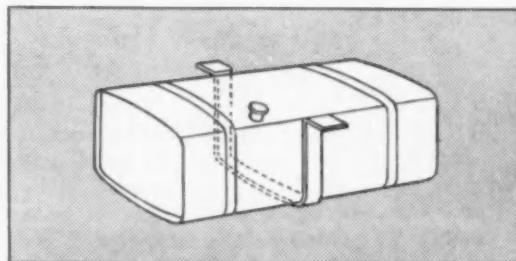
To repair, just remove the cross shaft and build
up with weld at the wear spots.



From Jean Babine, Harrison Delivery Co.

To secure gas tank safely on
International Model No. AM-152 trucks our shop
installs extra safety straps. Occasionally, on long
distance runs, a standard strap has broken, letting
the tank drop to the ground. This involves route
delays as well as danger of fire.

To prevent hazard, we install a piece of strap
iron under the center of the tank from chassis to
rocker panel. A piece of brake lining riveted to
the band keeps tank from slipping. The safety
strap hangs about $\frac{1}{4}$ in. below the tank so stand-
ard strap can be checked for need for repair.

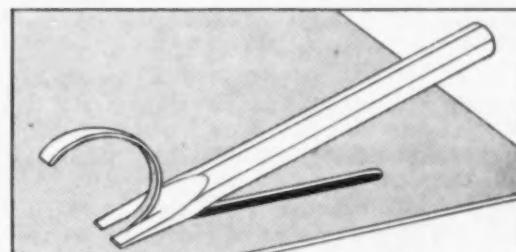


From G. D. Lynch, George's Garage, Ashville, N. C.

To make quick slots in sheet metal
our shop makes tongue chisels in various sizes. We
find them especially useful in body work—to make
suitable openings for controls, braces and air
passages.

Here's how to make the $\frac{1}{4}$ -in. size, which is
most popular: First, anneal a cold chisel and flat-
ten it slightly to sliding wedge shape (shown in
sketch). With a hacksaw, cut two slots $\frac{1}{4}$ in. apart
and one in. deep into the blade. Bend the tongue
down and retemper the chisel.

To use it, slide the tongue into a hole bored in
the sheet metal and drive the chisel with a hammer.
The metal cuts smoothly and rolls above the chisel
as it's driven.

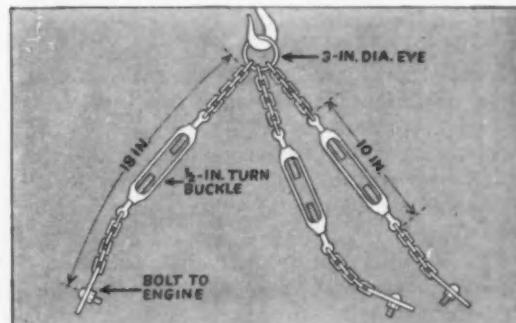


From Carl B. Odum, 3809 Flint Ave., Lubbock, Texas

To lift an engine
in less time with less chance of damaging parts,
make an engine lift swing. For the average pas-
senger car engine, $\frac{3}{8}$ -in. chain can be used—
heavier chain will be needed for bigger jobs.

Weld three $\frac{1}{2}$ -in. turn buckles into the chain,
as shown. Weld the three lengths of chain into a
3-in. hoist eye to hook onto pulley. Weld metal
pieces to ends of chains with holes drilled to take
bolts, which are in turn bolted to engine.

This three-point lift can be adjusted to level the
engine or roll it, as needed.



Fleet manager's guide— Safe handling of LP gas

Delivery of potentially dangerous LP gas

must be done by experienced men who out-think
disaster every moment . . .

By W. D. Cook, vice president and controller
Suburban Propane Gas Corp., Whippany, N. J.

WE AT Suburban Propane Gas Corp. realize that making LP gas deliveries is more than "driving." It is equal to, if not greater in importance than, any other service job. It takes an intelligent, mentally stable and experienced man to handle a delivery truck properly.

We select our delivery drivers from our older and more experienced employees—men who have had experience making installations, know the properties of LP gas, know how to handle it to make safe installations, and know the size and capacity of all types of containers.

All of these things can best be learned by experience. Delivery men should have station experience so that they know how to fill their truck tanks properly. And they should be physically fit.

A man who measures up to these standards with only a short period of instruction on the tank itself, can handle it safely. He will also know how to handle emergencies because of his familiarity with the truck, the product, and the customer installation.

We insist that our drivers observe the rules shown on the opposite page. Maybe you can use them in your operation.

However, our safety rules do not end with driver training. The design of the vehicle is just as important.

All of our trucks, although used locally, are built to conform with ICC requirements. In addition, we consider some other points equally important.

For instance, we do not want streamlined trucks, or ones with false work. The oldtimer of 1930, while it is out of date, did have certain

safety and efficiency advantages which are equally valuable today. They had a simple container mounted on a chassis with the piping, regulator and pump both accessible and in plain view. Of course piping, pump, meter and tank fittings should be amply protected against collision, road damage and mischievous tampering—but they should otherwise be accessible. So-called "streamlining" has been known to hide fires and make them difficult to handle. It makes leaks less obvious and more difficult to locate. If a component is not necessary to protect the container and fittings against collision damage and road dirt, it merely adds weight and cuts efficiency.

We insist that tank outlets be kept to a minimum number, and that they should be properly located. Many of our trucks have only one outlet in the underside of the tank—the liquid outlet. All but a few of our tank trucks have manheads, so the other outlets are in the manhead cover.

Some of our trucks still have liquid outlets in the rear, with a liquid eduction pipe. We protect them adequately against collision and overturn damage. The rear relief valve mounting is an outgrowth of the early 1930 truck tank and it has proven an acceptable location. But it should be well protected against physical damage and corrosion from rain and condensation. Loose fitting rain caps, easily kept in place under normal conditions, are essential.

The container must be so well secured to the chassis that it cannot become detached under collision conditions. (Our present method has survived unintentional field tests—in fact, in

(TURN TO PAGE 183, PLEASE)

1 CHOCK

2 INSPECT

FOR SAFE LP GAS DELIVERIES

3 REPORT

Use a chock block

every time you park the truck—for delivery and every other purpose.

Watch the truck

wherever you are working. With the bypass working properly, the pump operates regardless of whether liquid is going into the customer's tank or not. This enables the driver to open and close valves on his delivery hose and at the customer's tank when he wishes. Then, even though the truck is out of sight, the driver generally knows that everything is okay. However, if the driver can see the truck at all times, he can prevent anyone from tampering with it.

Inspect hoses

and other equipment daily. Report immediately if they are not in good condition. Since delivery hose is in constant use, it's easy to keep tabs on it. But hoses used in suction or discharge piping, to provide flexibility, are not always so obvious.

Concentrate

on the job at all times. No time here for daydreaming.

Height problems

can turn into accidents if the driver forgets the size of his trailer and rips down grape arbors, electric or telephone wires. He must also be careful of overhanging parts of customer's house.

Know overfill remedies

so well that when overfilling occurs (it should be infrequently) there's no doubt about what to do.

Walk around

the truck after giving the customer service. It's a sure way to check hoses that have not been disconnected—or children who have begun to play under the truck since it drove up.

Don't talk to customer

until you finish making the delivery and hose is disconnected. Filling an LP tank is no time for distractions, so it is entirely proper to say politely, "I'll be with you in just a moment."

Special precautions

are necessary when delivering near schools and places where the public gathers. And delivery trucks should not be parked in groups along public highway or at diners.

Release of gas

calls for quick thinking—know what to do to minimize the chance for ignition and injury.

Report hazards

found on the truck or at the customer's installation. On the first delivery to a customer, a thorough check of the premises should turn up any hazards. Later checks will prove conditions remain the same.



California Highway Patrolmen line up trucks for on-the-road safety inspection ranging from brake test to air hose pressure

Road checks— western style

California adopts some safety check equipment which could work as well spotting trouble in the shop as it does on roadsides

By R. Raymond Kay

Pacific Coast Editor



Highway patrolman explains to operator that brake tester records speed before stopping, and distance traveled after hitting brakes

IT TOOK special permission, but we recently watched the California Highway Patrol set up and operate a roadside check of trucks. It is one of CHP's continuing daily operations which is a part of that state's highway safety program. Here's how CHP conducts a rather complete inspection—with some handy devices fleet operators could adopt.

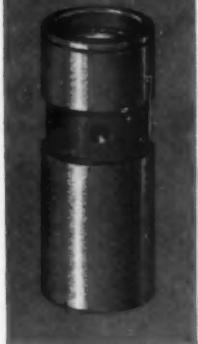
A group leader in a patrol car and three motorcycle officers met on a previously designated busy truck route and immediately started flagging trucks to the curb. They brought in three at a time for inspection.

The eyes of the experienced safety men were "all over" each truck as it rolled to a stop. These

are the questions the officers say they ask themselves as the trucks pull up: "Is it clean and well maintained? Are the tires badly worn? Any overloading? Are head and rear lights clean and functioning, and are signal lights mud-covered or defective? Does the truck come to a good stop at the spot indicated by the officer, or is it a 'mushy' stop, hinting at poor braking ability?"

Even the appearance and attitude of the driver have a meaning for the inspection officers: "Did he move quickly toward the curb on signal? Did he promptly leave the cab and wait for the officer's greeting? Or was he full of explanations

(TURN TO PAGE 179, PLEASE)



Time to talk tappets? Time to think of Sealed Power

When an engine is torn down for a major—or even a ring job—it's penny-wise and pound-foolish not to replace the tappets. Labor cost is about the same, of course, but it's a matter of simple economics to install new tappets and insure new life for the valve train at this time.

Tappets to turn to? Sealed Power tappets, hydraulic or adjustable. Both are precision made, equal (or better than) original equipment.

With Sealed Power tappets you increase engine efficiency and reduce maintenance costs.

SEALED POWER HYDRAULIC TAPPET



Sealed Power hydraulic tappets adjust themselves automatically for temperature changes and wear. Install them and forget them—because Sealed Power tappets are built better to give better service. For example, they have a disc valve (not a ball-type valve) of corrosion-resistant, highly polished steel. This disc valve is faster and more positive in action, it stays cleaner and holds wear to a rock-bottom minimum. Bore of the chilled iron body is honed to satin smoothness for easier plunger action...and for peak valve train efficiency.

SEALED POWER ADJUSTABLE TAPPET



Proved in more than 1,000,000 installations, Sealed Power adjustable tappets are of refined design, improved over original equipment. Features include ease of adjustment, a patented self-locking tappet screw which means that once set, they stay put. Use Sealed Power adjustable tappets for thousands of miles of smooth valve train action and maximum power. Same high quality as Sealed Power hydraulic tappets, of course.



Sealed Power Motor Parts

SEALED POWER CORPORATION • MUSKEGON, MICHIGAN

Preferred Performance

PISTON RINGS • PISTONS • PISTON PINS • SLEEVES AND SLEEVE ASSEMBLIES • VALVES AND VALVE PARTS • TAPPETS • WATER PUMPS
More details? Circle 162 on reply card inside back cover

Big Steel-Hauling Of SPICER



One of 80 steel-hauling GMC diesel tractors belonging to Hess Cartage Company, Detroit, all of which are equipped with Model 6853-C Spicer 5-speed synchronized transmissions and 1700 series universal joints.

Fleet Proves Superiority Transmissions...Universal Joints!

With its giant fleet of truck-trailers hauling huge loads of steel* on stop-and-go runs throughout Michigan and Ohio, Hess Cartage Company, Detroit, is a formidable "testing laboratory" for components of all kinds.

So, when Harry Murphy, Maintenance Superintendent for Hess, says "We've standardized on Spicer 5-speed transmissions on our fleet of 80 GMC diesel tractors," it means something.

"Our preventive maintenance program calls for overhauling our transmissions every 250,000 miles," Mr. Murphy points out. "Frequently, however, when we check our Spicer transmissions we find practically no bearing wear—and gears almost never have to be replaced!"

Hess's tractors are also ordered equipped with Spicer universal joints and propeller shafts. "Our experience with Spicer U-joints and shafts has been very good," Mr. Murphy reports. "We prefer them to any other make."

For further information, write Dana Corporation, Toledo 1, Ohio.

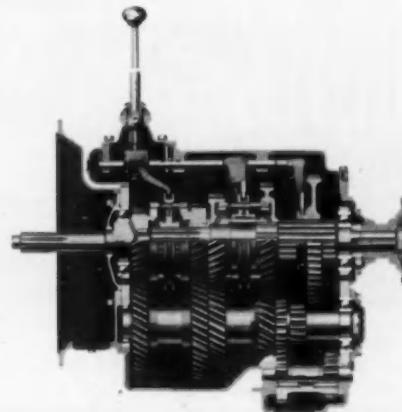
*As high as 88,000 pounds



Harry Murphy, Maintenance Superintendent for Hess Cartage Company, Detroit, for over 15 years, has charge of over 600 pieces of equipment, including 80 Spicer-equipped GMC tractors. "We need rugged, serviceable equipment in this business," says Mr. Murphy, "and Spicer components really fill the bill!"



Spicer Universal Joint Propeller Shafts come in a well-diversified range to fit any specific duty.



Spicer 5-Speed Transmissions are available with or without overdrive.



DANA CORPORATION

Toledo 1, Ohio

Serving Transportation—Transmissions • Auxiliaries • Universal Joints • Clutches • Propeller Shafts • Power Take-Offs
• Torque Converters • Axles • Powr-Lok Differentials • Gear Boxes • Forgings • Stamping • Frames • Railway Drives
Many of these products are manufactured in Canada by Hayes Steel Products Limited, Merritton, Ontario



in trucks and tractors

**It's easy to get more details about the items described.
Just fold out and use free reply cards inside back cover**



Half-ton multi-stop delivery van
 just added to the Chevrolet truck line is called the "Step-Van 7." Powered by a 135-hp, 6-cyl engine, the forward-control unit features short 102-in. wheelbase and overall length of 167 in. Also featured are new independent front suspension and coil rear springs. The 7-ft-high walk-in body offers 211 cu ft of loadspace for 1350-lb maximum payload. Sliding doors on both sides and double rear doors are available with or without windows. For fleets who use special bodies, the "Step-Van 7" chassis is offered separately.

For further information, circle 326 on reply card



Swedish-built diesel tractor
 called the "Customerican 40" can haul 40-ft semi-trailers with 10-in. corner radius in 50-ft states. Volvo Diesel Truck Division, Newark, N. J., says the 90-in. contour cab has plenty of leg room, is wide enough for driver to lie down across seats. Engine doesn't extend into cab, is said to be easily accessible for service and free from vibration, noise and smoke. Also featured are rattle-eliminating input shaft to 10-speed transmission, balanced clutch linkage, extra-long springs and heavy-duty front shock absorbers.

To get more details, circle 327 on reply card



Compact, heavy-duty, gas-powered tractor
 from Diamond T Motor Truck Co., Chicago, is the new Model No. D-5000 with 90-in. BBC. Maker says it's a "snub-nose," short-coupled unit designed to haul 40-ft square-nose trailers in 50-ft states. It's rated at 29,000 lb GVW and 55,000 lb GCW. Standard engine is the 6-cyl Model No. DT6-170 with 4½ x 4½-in. bore and stroke. It develops up to 170 hp at 3400 rpm with 297 lb ft of torque. Also standard is the "R" cab of all-steel welded construction with 3-point suspension and complete insulation.

To get more details, circle 328 on reply card



Tilt-cab tractors for on-highway operation are designated the new "DC" series by Reo Division, White Motor Co., Lansing, Mich. Five models in the series include four single-axles and one tandem. GVW ratings range from 26,000 to 43,000 lb with from 45,000 to 78,000 GCW. Two single-axle units are powered by Reo Gold Comet 6-cyl engines with hp ratings from 145 to 185. Other three units have Gold Comet V-8's rated at 207 hp. Cab on all models is tilted by manually-operated hydraulic pump. Tilting isn't required for oil, water and battery check.

For more information, circle 329 on reply card



New wide-box pickup truck is the 1961 Champ from Studebaker-Packard. The 20-in.-high, welded box is 70½ in. wide (49 in. between wheelhouses). Inside lengths are 78½ and 99 in. for 112 and 122-in. wheelbase models, respectively. An extra-wide, 54½-in. tailgate is said to be sand-tight and grain-tight. The 1961 Champ also features a new 6-cyl, 110-hp, overhead-valve engine said to be power-matched to the truck's GVW for better performance and operating economy. Options include two V-8 engines of 180 and 210 hp. Half and ¾-ton models are offered in three GVW ratings.

For further details, circle 330 on reply card

Israel-made compact trucks are introduced here

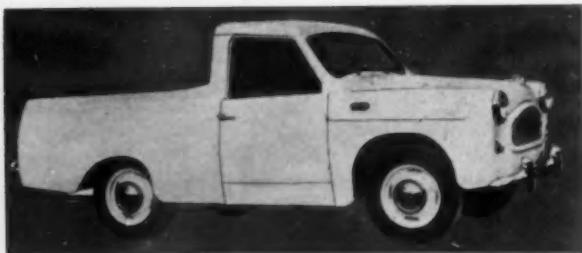
TWO VERSIONS of the new Sabra, Israel-built compact truck, are now offered for distribution throughout the U. S. by Sabra Motors Corp., New York City. The panel and pickup truck models shown below are said to be ideal for economical operation by service and delivery fleets.

Bodies of the new vehicles are molded of plastic-reinforced fiber glass for light weight, durability and low maintenance cost. Highly resistant to corrosion, dents and moisture, the fiber glass body is said to be easily and inexpensively repaired.

Both panel and pickup truck body models have the same standard specifications, as follows:

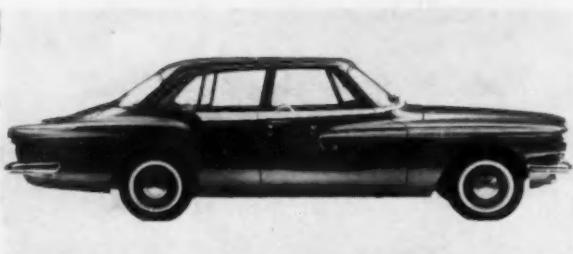
For more details on the Sabra, circle 331 on reply card

- Overall body length of 150 in. on 85-in. wheelbase.
 - Empty vehicle weight of 1740 lb with 1500-lb payload capacity.
 - English Ford 61-cu in. engine said to give up to 43 mpg of gasoline with maximum speed up to 75 mph. The water-cooled, 4-cyl, OHV powerplant has 3.1875-in. bore and 1.906-in. stroke with compression ratio of 8.9 to 1. It has a rating of 41 hp at 5000 rpm with maximum torque of 55 lb ft at 2700 rpm.
 - 12-volt ignition and lighting system with automatic advance distributor. System is said to be easily accessible for inspection and repair.
 - Synchromesh transmission with four speeds forward and one reverse. Clutch is single-plate, dry type. Gear lever is centrally mounted.
 - Hydraulic service brake system and mechanical hand brake which operates on rear wheels only.
 - Independent front suspension with coil springs controlled by telescopic-type, direct-acting, hydraulic shock absorbers. Long, semi-elliptic rear springs have double-acting hydraulic shocks.
- Maker guarantees immediate delivery of the new Sabra trucks to fleet operators in any part of the U. S. Since most parts are standard, they are said to be available throughout the country.





in fleet cars



New sports coupe model from Dodge is the "770" Lancer. Just introduced, the 2-door, 5-passenger compact sports coupe is said to be the lowest priced model in the series. Standard engine is the Lancer 170-cu in., 101-hp, "slant six." The new compact features an unusual two-tone color treatment. Contrasting color appears in a "belt-line" area below the side windows and windshield line. Narrow chrome molding emphasizes color contrast. Seats are foam-padded nylon knit with vinyl trim.

For more information, circle 319 on reply card



New compact car from Israel called the Sabra is now offered for distribution in the U. S. by Sabra Motors Corp. of America, New York City. Body styles include a sedan, a 2-door 4-passenger station wagon and a 2-seater sports car. All models feature body construction of plastic-reinforced fiberglass. The 4-cyl, water-cooled engine is said to give 43 miles per gal of gas, with all parts available in the U. S. Synchromesh transmission has four speeds forward, one reverse. Service brakes are hydraulic—handbrake is mechanical.

Want to know more? Circle 320 on reply card



in truck bodies

General service bodies, conversion kits and side boxes for $\frac{1}{2}$, $\frac{3}{4}$ and 1-ton pickup truck chassis comprise a new line from Highway Trailer Industries' Utility Division.

Model HB service body, of rust-proof galvaneal steel, has inside width of $48\frac{1}{2}$ in. in lengths from 75 to 104 in. Overall, it's $77\frac{1}{2}$ in. wide and 42 in. high. Units offered fit

most pickup truck models, maker says.

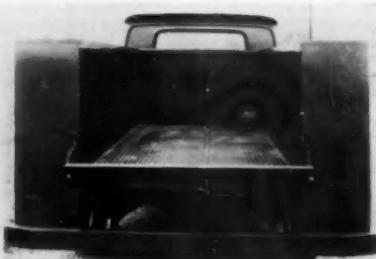
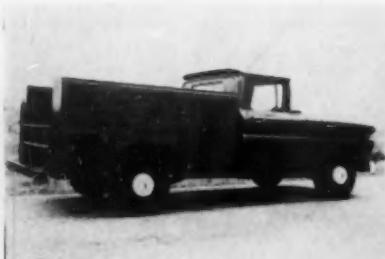
Model HC conversion kits have front, horizontal and lower rear compartments in each side assembly.

Model HT side boxes are 12 in. wide, 14 in. deep in 70, 90 and 100-in. lengths.

For more details on Highway's new line, circle 321 on reply card

Utility body for oil burner service fleets is from Reading Body Works, Reading, Pa. Load area for bulky equipment has a permanent roof which also provides shelter for on-the-spot repair work. Six weatherproof outside compartments have dividers, shelves and trays for easy access to tools and small parts.

For more details, circle 322



Patch with scrap?
Not any more...it costs too much!



Alclad Aluminum

Rivetpatch®

cheaper . . . faster . . . neater



By the time you round up scrap metal, fasteners and tools, lay out the patch, cut it to size and finish it, you have used up about an hour of shop time. With today's overhead, that's 4 or 5 dollars.

Now . . . you save up to 68% of this cost by using the all new Southco aluminum Rivetpatch. What's more . . . you get the neatest, fastest job possible at this low cost. And it's always professional looking, no matter who installs it. Your rigs are back on the road sooner . . . making money, when you standardize on Rivetpatch for all body patching.

Installation of Rivetpatch takes only a few minutes . . . simply drill through pilot holes, insert the Southco Drive Rivets, and hit the pins. You work from one side of the job with only a drill and hammer. Nothing else.

Available in four sizes; 3 x 5, 5 x 8, 8 x 11½, and 11½ x 24 inches. Each Rivetpatch pack contains a precision-stamped, aircraft-type patch of Alclad aluminum with pre-punched pilot holes, formed edges and rounded corners. Southco Rivets, sealant and directions are included.

Write to Southco Division, 228 Industrial Highway, Lester, Pa.



**FASTENERS IMPROVE TRUCK BODY,
TRAILER AND BUS CONSTRUCTION**

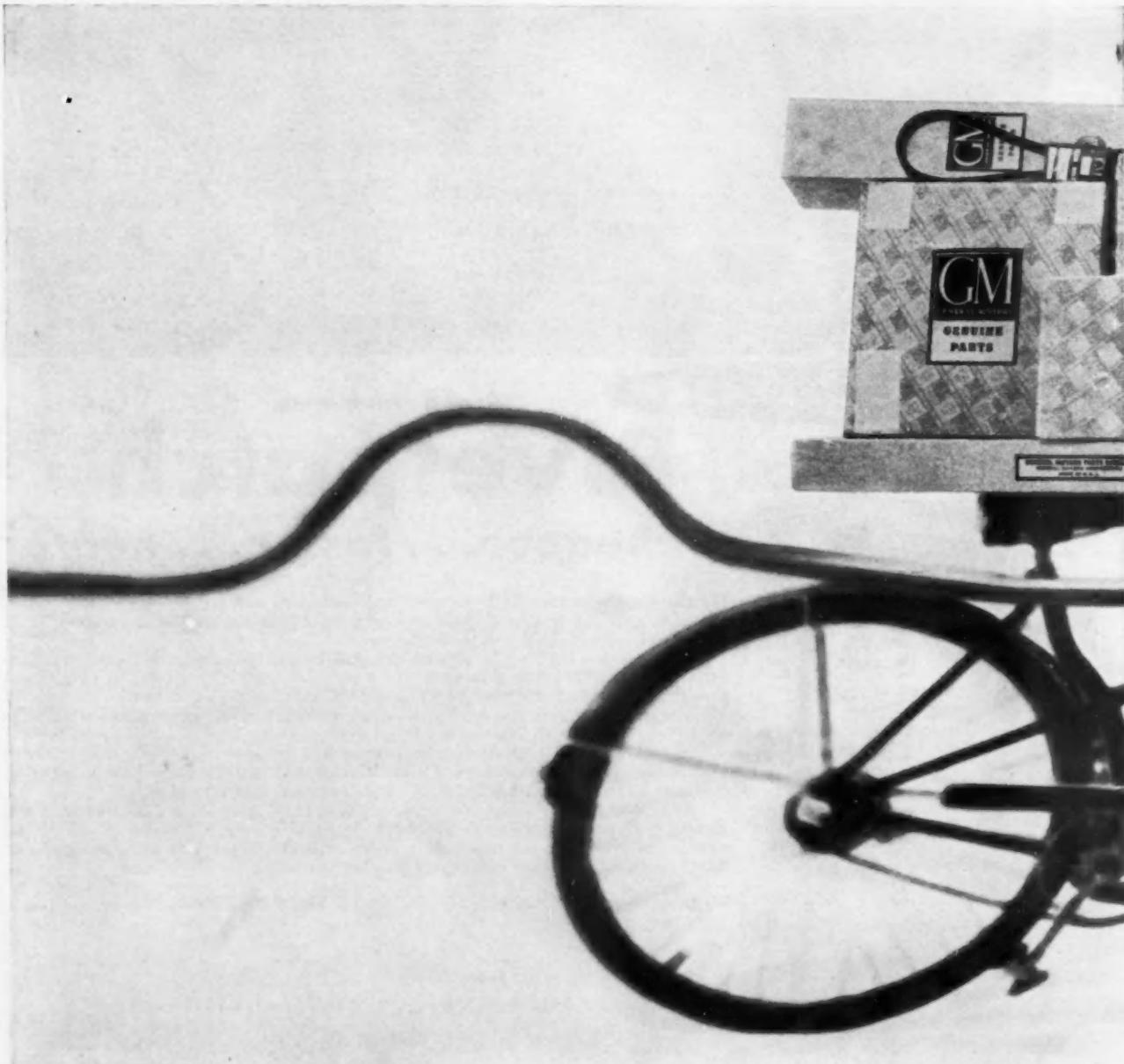


SOLD BY SOUTHCORIVET DISTRIBUTORS . . . EVERYWHERE



you get your Chevy fleet parts

PDQ!



at your Chevrolet dealer's

The P.D.Q. availability of genuine Chevrolet parts at home and away from home is one of the reasons why so many fleet owners buy Chevrolets time after time. They've learned from experience that Chevy dealers are in the parts and service business in a big way. They've learned, too, that Chevy dealers take pride in giving fleet owners extra prompt attention—as one businessman to another.

Whether you operate your fleet coast to coast or strictly on your city streets, it's good to know you can depend upon your Chevy dealer for the Chevrolet parts you need when you need them. Even if a part happens to be temporarily out of stock, he can get it P.D.Q.—

from one of the 41 Chevrolet factory warehouses spotted all over the country.

What's more, by buying GENUINE Chevrolet replacement parts, you can be sure of consistently high quality and easy installation, because they're precision built to the same specifications as the original assembly. Result—you have less downtime, a more profitable fleet operation.

It will pay you more ways than one to protect your fleet investment with genuine Chevrolet parts—available P.D.Q. from your Chevy dealer! . . . Chevrolet Division of General Motors, Detroit 2, Michigan.



P.D.Q. means Parts Delivered Quick—and that means genuine Chevrolet parts!





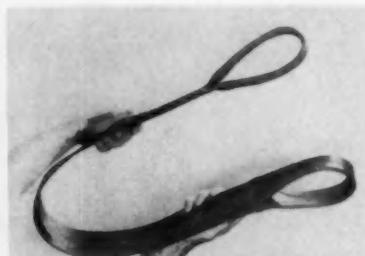
in cargo handling

It's easy to get more details about the items described.
Just fold out and use free reply cards inside back cover



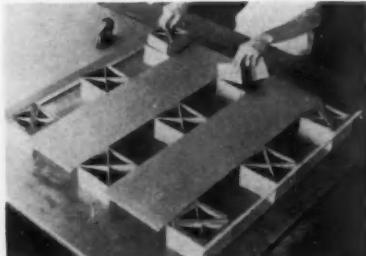
Fork-lift tractor is a new, heavy-duty, 4-wheel drive model. The Frank G. Hough Co., Libertyville, Ill., says the Model No. H-30 has 6000-lb capacity at 24-in. load center, 14-ft maximum stacking height and 48-in.-long forks that adjust to 48-in. width. It's said to operate over uneven surfaces.

More details? Circle 390 on reply card



Web-belt slings are designed for lifting finished products, machined surfaces and soft metals. Wire Rope Division, Jones & Laughlin Steel Corp., Muncey, Pa., makes the Safety Weave slings of nylon and dacron. For safe lifting of large or small items, various sizes and strengths are offered.

More details? Circle 391 on reply card

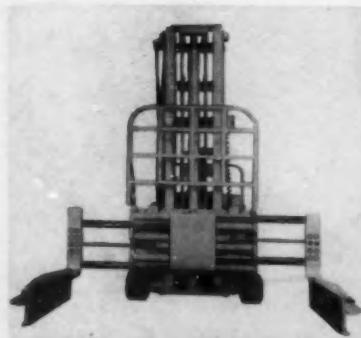


Throw-away pallet is corrugated, light in weight. Packaging Corp. of America, Evanston, Ill., says Econo-Pal weighs only three to four lb, can carry up to 10,000-lb loads, is much cheaper than conventional wooden pallets. The one piece pallet can be shipped and stored in flat sheet form.

More details? Circle 392 on reply card

Fork-lift truck from Lewis-Shepard Products, Inc., Watertown, Mass., is the new electric-powered, counterbalanced Jack-Stacker. Its side-shift clamp and rubber-faced pallet arms are said to allow palletless handling of various sized loads. All controls are at drive end of truck.

More details? Circle 393 on reply card



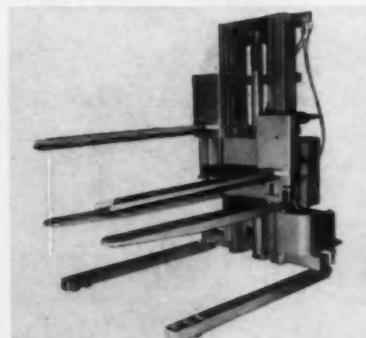
Straddle truck carriers featuring an all-hydraulic hoist system are offered by Hyster Co., Portland, Ore. The Model Nos. M200F and M300F have capacities of 22,000 and 30,000 lb, respectively. Two high-pressure pumps are used—one to handle loads, the other to provide power steering.

More details? Circle 394 on reply card



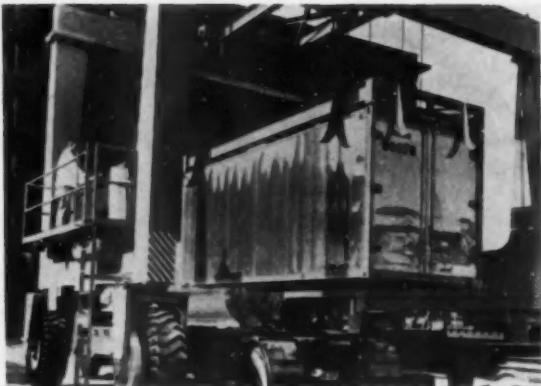
Straddle-type Jack-Stacker from Lewis-Shepard Products, Inc., Watertown, Mass., has individually-operated load stabilizer arms. It's said to handle large or small loads of various heights. Arms are rubber-padded to prevent loads from slipping or being damaged by clamping.

More details? Circle 395 on reply card



Container handling device
called the Paceco "TransTainer" is made by Pacific Coast Engineering Co., Alameda, Cal. The huge mobile gantry crane is said to transfer a 25-ton cargo container from storage pavement to truck chassis in just two minutes. Standing 24 ft high on a 21-ft wheelbase, the "TransTainer" can stack containers two high. It spans a railcar and highway truck at the same time to load and unload containers as it travels the length of a train without losing time to back off or make return trips. Pneumatic rubber tires permit the unit to move with combined weight of 70,000 lb without damaging docks or paved surfaces. Tire changing is made easy by single wheel suspension and frame jacking pads for lifting the corners.

For further details, circle 323 on reply card



Containerized moving and storage
operation for handling household goods is being used by Bekins Van Lines, Los Angeles, Cal. Furniture is stored in 5 x 7 x 7½-ft pallet boxes. Door-to-door containerized moving is provided by special pallet trailers and flatbeds.

For more information, circle 324 on reply card



Container system for household goods
shipment is offered by Highway Trailer Industries. Each 8 x 7 x 6½-ft container takes up to three rooms of personal possessions to their destination without rehandling. Six of these compact units are shipped aboard one 40-ft flatbed trailer.

For more details on the system, circle 325

Motorized pry-bar
is the electric-powered Tug-Bar from Western Gear Corp., Belmont, Cal. One man can use the 110-lb unit to move up to 7-ton cargo loads. Fleetmen will find the Tug-Bar saves time and cost in terminal or warehousing operations—even for shifting heavy cargo in trailers.

More details? Circle 396 on reply card



Cargo handler and hauler
is the Jo-Dog Unloader. With side rails raised it's a self-contained, hydraulically-operated fork lift for loading and unloading any palletized materials. It also converts any single-axle tractor to a tandem unit. Detachable folding legs hold up the Jo-Dog when not in use.

More details? Circle 397 on reply card



Towline truck bumper
is pressure sensitive. SI Handling Systems, Phillipsburg, N. J., says it will automatically release the tow pin and apply brakes on contact with any obstruction, then re-engage towline on release. It's said to be designed for accumulation and safety of towline trucks.

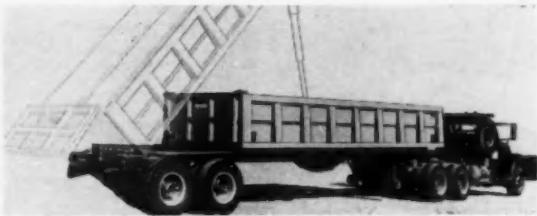
More details? Circle 398 on reply card





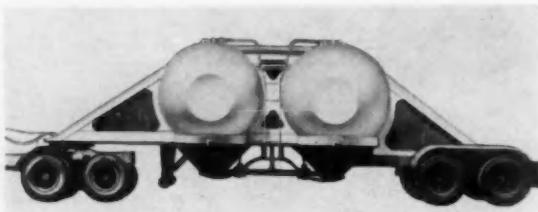
in trailers

It's easy to get more details about the items described.
Just fold out and use free reply cards inside back cover



New dump-trailer design features a 4-section, telescopic double-acting hydraulic hoist to both position the 24-ft body on an extra-long chassis and dump the payload. The "Hydra-Shift" Pay-Pac dump trailer is produced jointly by Spencer-Safford Loadercraft and Daybrook Hydraulic Division.

For more details, circle 315 on reply card

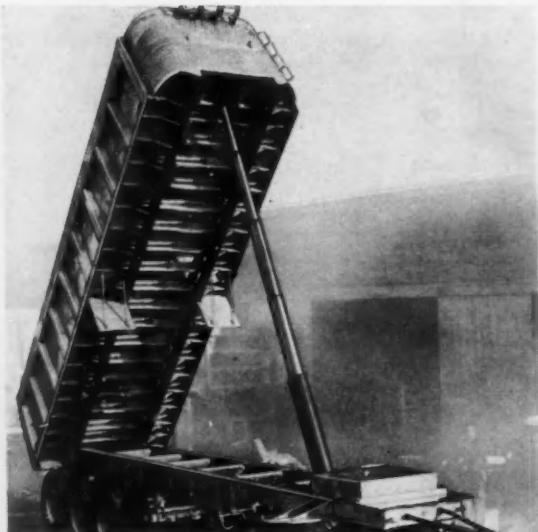


Dry-bulk transporter has pneumatic discharge system that's said to unload such items as cement, sand, chemicals or flour at a rate of five to eight barrels per min. Highway Trailer Industries says the new Highway-Interconsult trailer has 80,500-lb capacity.

For further details, circle 316 on reply card

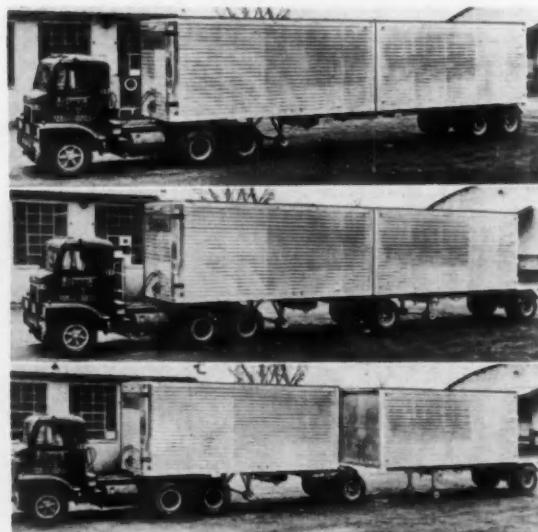
New all-aluminum trailer frames for dump, tank and flatbed application are offered by Ravens-Metal Products, Parkersburg, W. Va. The Series BX frame is said to be adaptable to any legal weight limit, can be modified for heavy off-highway units. Lengths range from 20 to 35 ft.

For further details, circle 318 on reply card



New "split" 40-ft trailer requires just one man to break it into two smaller units in less than 10 min, says Bruce Motor Freight, Des Moines, Iowa. To shift wheel and dolly positions, air brakes are set on individual trailer wheels. Unbraked trailer is moved by the tractor.

Want more details? Circle 317 on reply card



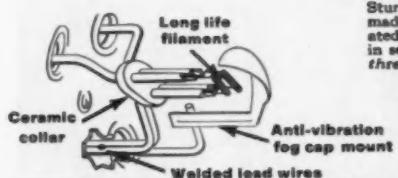
COMPLETE TUNG-SOL HEAVY DUTY LINE CREATES

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Heavy Duty performance comes from Tung-Sol Filament Design

The most durable headlamp filaments ever developed provide the extra long life characteristic of Tung-Sol Heavy Duty Headlamps.



Sturdy twin filaments, made of special thoriated wire and connected in series, deliver up to three times more service.

Double-anchored filament helps to produce service life up to three times ordinary lamps.

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Up to 6 Lamp Signaling Capacity

535 536 537 550

Tung-Sol Heavy Duty Flashers provide exceptionally long life in meeting signaling requirements from two to six lamps.

Now you can provide your fleet with a complete line of lamps and flashers designed expressly for the extremely rough service conditions encountered by trucks, off-highway equipment, police, fire, emergency vehicles and passenger car fleets. In short, here is lighting performance keyed to every requirement of fleet operation. See your Tung-Sol supplier.

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HEAVY DUTY
LAMPS • FLASHERS



**RUGGED
MIDLAND
BRAKE CHAMBER**

TOUGH-BUILT FOR TRUCK SERVICE

DIAPHRAGM is oil and ozone resistant.
ALL METAL PARTS are plated to resist corrosion.

IT'S EASY TO SERVICE. Two-piece clamp band permits quick disassembly without removal of unit. Applies a more uniform clamping pressure.

IT'S RUGGED . . . designed to resist shock. Studs are welded to chamber, an integral part of assembly.

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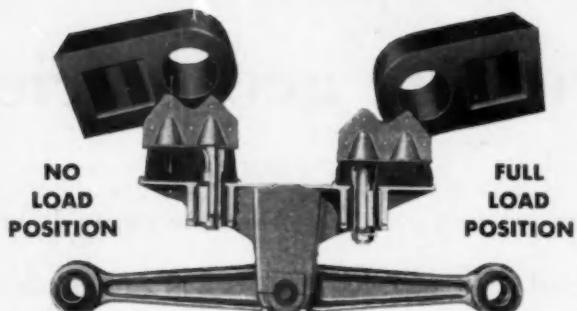


MIDLAND-ROSS CORPORATION

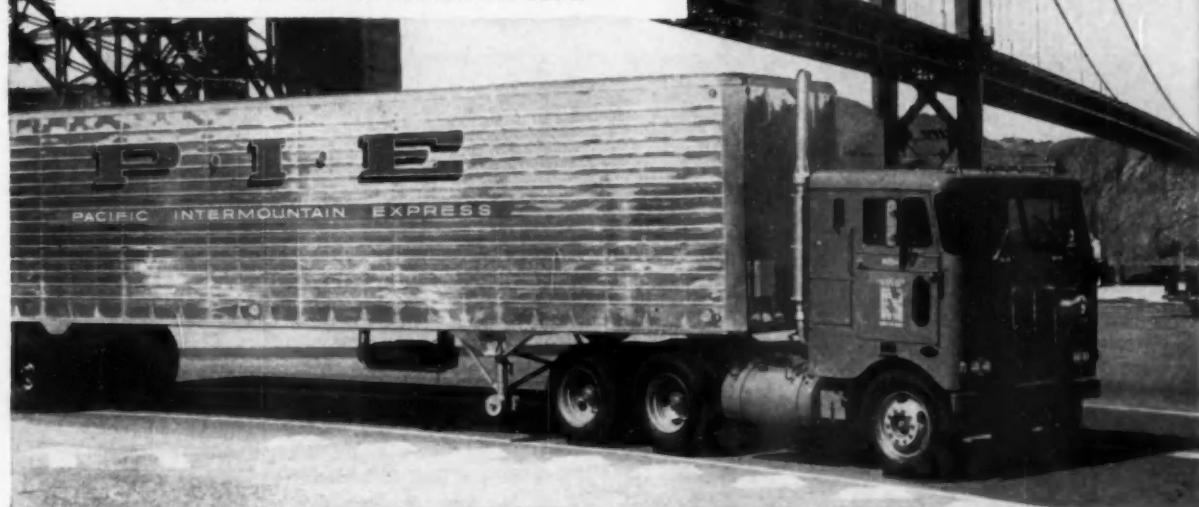
Owosso, Michigan



HENDRICKSON RUBBER LOAD CUSHION TANDEM



... FOR LIGHT WEIGHT, PERFECT SUSPENSION GEOMETRY,
REDUCED TIRE WEAR AND MAINTENANCE COSTS.



One of P-I-E's Peterbilt tractors equipped with Hendrickson Rubber Load Cushion tandem suspensions.

**P-I-E chooses
maintenance-free, lightweight**

Start with a basic tandem suspension design which automatically reduces the effect of road irregularities 50% . . . add modern rubber load cushions and aluminum components which cut suspension weight to 585 pounds for a tandem with a rated capacity of 34,000 pounds. Wrap up the package with such features as four-point frame mounting, perfect axle alignment and complete rubber bushing throughout to eliminate hu-

bication requirements. What does it add up to? . . . Hendrickson RSOA-320 Rubber Load Cushion Tandem Suspension.

As far as Pacific Intermountain Express is concerned, it adds up to dependability, economy and increased payloads. That's why P-I-E, one of the nation's largest motor freight operations, specified Hendrickson RSOA-320 Tandems — with weight-saving aluminum saddles

and equalizing beams—on a recent purchase of equipment used in long-haul over-the-road assignments.

HENDRICKSON MFG. COMPANY
8001 WEST 47TH STREET
LYONS (Chicago Suburb), ILLINOIS

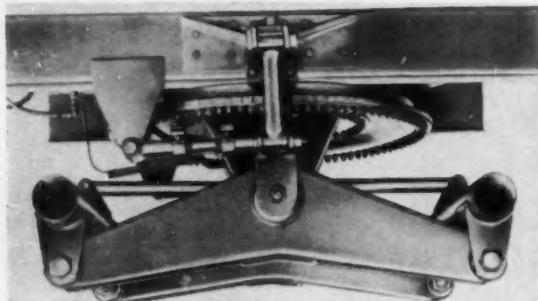




in vehicle accessories

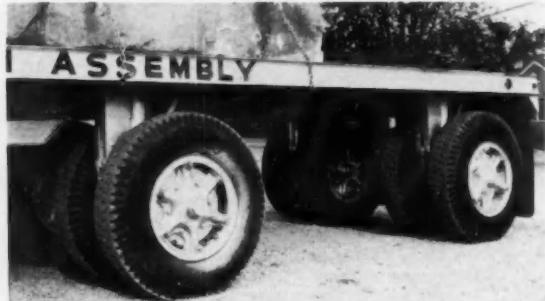
It's easy to get more details about the items described.

Just fold out and use free reply cards inside back cover



New air suspension from Reynolds Mfg. Co., Springfield, Mo., is designed to meet the varied demands of the trucking industry. The Reyco Model No. 50 Airbeam suspension is said to function by diaphragm action rather than the bellows method previously used. It consists simply of a large air spring located between the frame rails.

To get further information, circle 332 on reply card

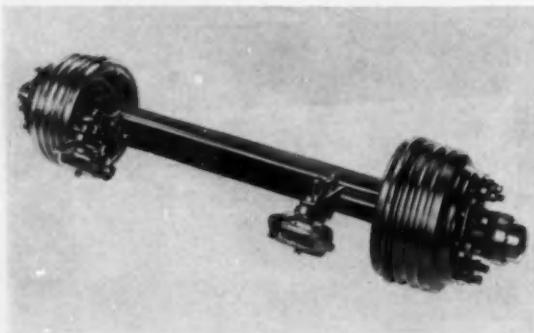


Liquid coupler tandem assembly from Jo-Dog Mfg. Co., Bedford, Ind., is said to weigh its own load, even during loading. Individual wheel suspension permits use of any number of wheels needed to carry a load. Wheels have no axles, may be plugged in like casters then connected with hydraulic fluid hose for load equalization.

To get further information, circle 333 on reply card

New lightweight trailer axle built of a special steel by Shuler Axle Co., Louisville, Ky., is the Model No. 20L. It's said to be 50 lb lighter, yet equal in strength to the Model No. T-18C which it replaces at the same price. New self-contained brake has permanent oil seals on the camshaft for longer service intervals.

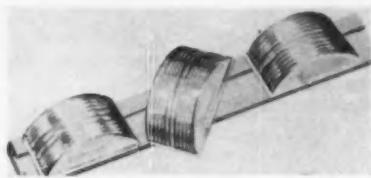
To get further information, circle 334 on reply card



Fender splash guard assembly developed by Utility Tool & Body Co., Clintonville, Wis., is said to improve trailer operation while providing better appearance. Maker says it reduces amount of mud, dirt and stones thrown against trailer as well as vehicles traveling behind. This cuts down maintenance time for cleaning and painting trailer.

To get further information, circle 335 on reply card





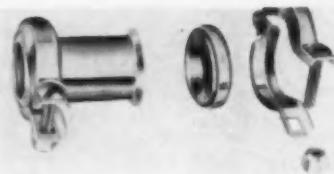
Clearance light bar called Bee-Bar saves time in replacing lights, says maker, King Bee Mfg. Co., Bellwood, Ill. Lens, base and bulb are assembled into a one-piece unit which can be thrown away and replaced quickly.

More details? Circle 400 on reply card



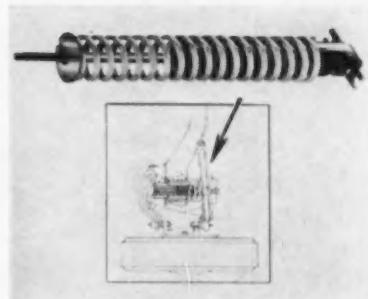
Truck brake blocks in the Velvetouch Feramic line of S. K. Wellman Co., Bedford, Ohio, are now offered in $\frac{1}{4}$, $\frac{3}{8}$ and $\frac{1}{2}$ -in. thicknesses in addition to the $\frac{3}{4}$ -in. size. Material used is said to resist oil, grease and moisture.

More details? Circle 401 on reply card



Pipe coupling called Flexmaster joins plain pipe ends without cutting or threading, says Marman Division, Aeroquip Corp. It's offered in lengths from two to 36 in. for pipe sizes from $\frac{1}{2}$ to four in.

More details? Circle 402 on reply card



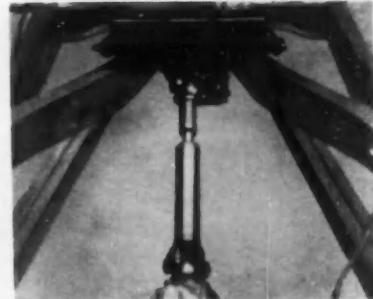
Front shock springs from GorDag Industries, Minneapolis, Minn., are said to provide greater car stability and positive steering control. They're for installation over present good front shocks with no special tools required.

More details? Circle 403 on reply card



Automobile suspension device called Superlift keeps car body under proper control regardless of load, says Delco Products Division, Dayton, Ohio. It's installed near each rear wheel to keep body from hitting axle on rough roads.

More details? Circle 404 on reply card

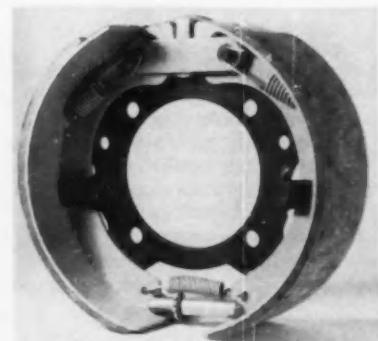


Auxiliary transmission for X-frame pickup trucks is the Brownie-Junior from H. S. Watson Co., Emeryville, Cal. Installed in the underdrive position, it's said to make it easy to mount and drive a PTO for truck-mounted equipment.

More details? Circle 405 on reply card

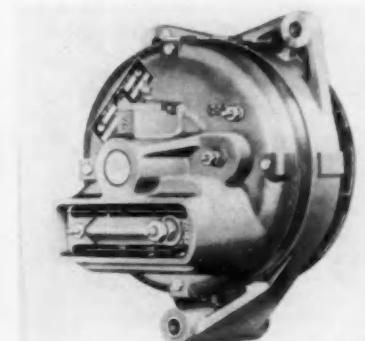
New emergency brake from Bendix Corp. is said to give positive control over heavy tractor-trailer units regardless of type or location of brake system failure. The 12 x 5-in. Duo Serve brake is mechanically actuated.

More details? Circle 406 on reply card



New 40-amp alternator is designed for medium-duty service on any vehicle, says Lees-Neville Co., Cleveland, Ohio. It's said to give easy starting in any weather and permit full use of electrical accessories at all speeds.

More details? Circle 407 on reply card



Anti-surge gas caps from Stant Mfg. Co., Connersville, Ind., are Model Nos. G-40 and G-46 for fleet passenger cars. They're said to prevent fuel loss due to surging, gas tank collapse or clogged vent tubes.

More details? Circle 408 on reply card





in vehicle accessories

Continued from Page 137

Truck tire
just announced by Firestone Tire & Rubber Co., Akron, Ohio, is the Transport-100. Company says it runs cooler, gives better traction and runs 50 per cent more miles than previous truck tire models.

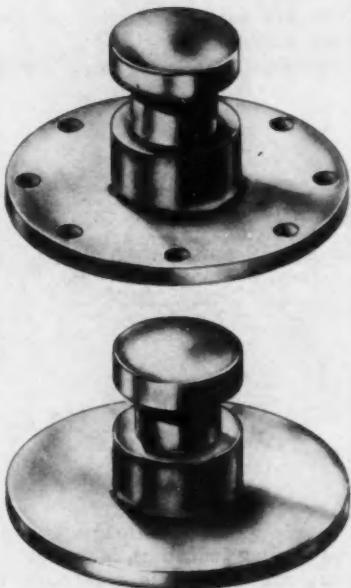
More details? Circle 417 on reply card

Hydraulic speed retarder
for heavy vehicles is called "Brake-Mate." Borg-Warner Corp., Chicago, maker of the braking device, says it is a compact unit which holds heavy equipment to safe speeds on highways, mountain roads and in off-highway operations. For installation

in drive line between transmission and rear, the retarder consists of a power absorption unit, heat exchanger and controls.

More details? Circle 418 on reply card

Fifth-wheel kingpins
just added to the line of replacement parts available from Transit Parts Co., Willoughby, Ohio, are 8 in. in



diameter. Two types are offered—the drilled type (top) and weld-on type (bottom).

More details? Circle 419 on reply card

FASTER-EASIER SAFER LIFTING . . . TRUCKS, BUSES & HEAVY EQUIPMENT



Branick **TRUCK
JACK**

LIFTS 9 TONS ON 160 LBS. OF AIR PRESSURE
EACH ADDITIONAL 20 LBS. OF AIR PRESSURE WILL RAISE 1 TON

Speeds Up . . .

- TIRE SERVICE
- BRAKE WORK
- MECHANIC WORK
- CHAIN INSTALLATION, ETC.

**BRANICK
PRODUCTS CO.**

FARGO, N. DAKOTA



Motor starting fluid
from Wilco Co., Los Angeles, Cal., is said to give quick starts for all gasoline and diesel engines. SureFire is just sprayed into air cleaner or air intake stream for a few seconds. Wilco says it's suited to all types of heavy equipment, even at 65 deg below 0.

More details? Circle 420 on reply card

Hydraulic oil
developed by Lubrication Engineers, Fort Worth, Texas, is said to help fleet operators maintain peak performance of hydraulic systems regardless of operating conditions. LE Brand Hydraulic Oil keeps right viscosity over wide temperature range, has high film strength and resists heat, oxidation and foaming, says maker.

More details? Circle 421 on reply card

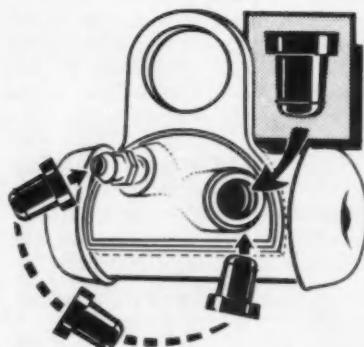
Moving-coil voltmeter acts as a watchdog over battery, starter, generator and regulator. Burton-Rogers Co., Cambridge, Mass.



says the new Hoyt Performance Meter shows whether battery is discharging or overcharging due to defective generator, regulator or wiring. For underdash installation, two models are offered for 6- or 12-volt systems.

More details? Circle 422 on reply card

Bleeder screw dust cap combined with an internal thread protector is now offered on wheel cylinders produced by Eis Automotive



Co., Middletown, Conn. The molded rubber unit is said to keep dirt and grease out of the cylinder.

More details? Circle 423 on reply card

Truck body heater is for standby operation in trucks and trailers to protect cargo from freezing. The new Kold-Hold product has just been introduced by Tranter Mfg. Inc., Lansing, Mich. It may be wall-mounted or placed on floor inside vehicle body. An adjustable thermostat is said to maintain temperatures in the range of 35 to 80 deg F.

More details? Circle 443 on reply card

Repair kit for bus step treads contains a new plastic sealer called SP-10. Baird Dynamic Corp., Stratford, Conn., says the sealer is troweled or brushed on, eliminates need for "tacked-on" step coverings. The surface formed resists wear, temperature extremes, moisture and most common chemicals, says maker. More details? Circle 424 on reply card

Bus step surface abrasive called "Grip-Grit" is offered by Baird Dynamic Corp. for use with the com-

pany's SP-10 plastic sealer. It's applied directly over the sealer before it hardens to give non-skid surface. More details? Circle 425 on reply card

New turn signal from R. E. Dietz Co., Syracuse, N. Y., is designated the Model No. 275. Available in double or single-face models, it has acrylic fade-proof lens and chrome or aluminum finish. More details? Circle 426 on reply card

**Your fleet takes a
CONSTANT BEATING!**



make sure the ignition system can take it

P&D-IZE regularly!



The largest percentage of passenger car repair jobs are caused by ignition failures. With trucks, buses, tractors the toll is even greater. The only answer is to P&D-ize on every tune-up.

P&D gives you a complete line of genuine parts warranted on each job. P&D gives you service you can trust, reputation you can rely on—more hours on the road, less time in the shop.

Join the crowd, get the P&D-ize habit. It pays! Send for a P&D technical book or ask your jobber.



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STARTING - LIGHTING - IGNITION

19-02 STEINWAY ST., LONG ISLAND CITY 5, N. Y.

Export Sales: Borg Warner International, 36 So. Wabash Ave., Chicago 3, Ill.

More details? Circle 170 on reply card inside back cover

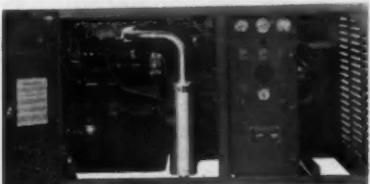


in reefer equipment

Continued from Page 107

Refrigeration unit by Flextemp, Indianapolis, Ind., has been engineered to give quicker cooling, while reducing the weight of earlier models. It uses light-weight alloys and smaller parts in its aim for fewest possible pounds. For more information circle 368 on the reply card.

Refrigeration unit from Transicold Corp., Montebello, Cal., uses only .3 to .4 gal of fuel per hour, says the maker. New Model



No. 230-B is equipped with Unidrive which allows direct connection of power unit with generator and com-

pressor. It also has a bypass control for use when a heating cycle is not wanted. For more details circle 369 on the reply card.

Refrigeration unit from Thermo Equipment Corp., Newark, N. J. is the company's first entry into the manufacturing field. (Formerly it was only a distributor of refrigeration and air conditioning equipment. Basic trailer unit, the D-12, consists of two separate sections to give greater efficiency at less expense, says the firm. For further details, circle 370 on the reply card.

Reefer drive system being marketed by Republic Electric and Development Co., Seattle, Wash., is an electric drive unit. It may be adapted for use on any refrigerated



trailer. It includes alternator at tractor engine, direct current motor driving the compressor, and control unit in the cab. For information on Republic's free-use-for-90-days offer, circle 371 on the reply card.

K-D #325 Heavy Duty Valve Spring Compressor for BIG Valve-in-Head or L-Head Engines

- One man operates with manifold in place
- Saves time... saves money
- 4 possible adjustments to handle all valve lengths
- 3 sets of jaws—straight, offset and extra-high offset
- Rack and gear construction for power to spare

Eastern fleet price \$26.15, slightly higher in West.

A NEW PAIR OF COST CUTTERS FOR YOUR MAINTENANCE SHOP

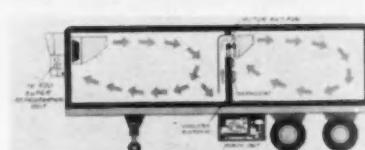
K-D #175 Universal Rotating Cylinder Head Holder

- Holds all heads in any position for cleaning or servicing valves
- Combination of light weight, low price, and compactness cannot be equaled
- Heads of various types and widths bolt to support brackets
- T-handles lock brackets and mounted head at any angle
- Turns full 360°

Eastern fleet price \$15.00, slightly higher in West.

Look for them both at your nearest jobber today

K-D TOOLS Make hard jobs easy
K-D MANUFACTURING COMPANY
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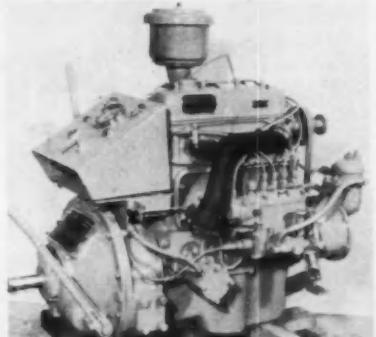


Compartment fan for use with movable or stationary bulkheads has a 16-in. fan and thermostat to give regulated cooling temperatures in rear of compartment trailer. It's made by Arctic Traveler, Montgomery, Ala., for use with electric "Truckmaster" and "Super Trailmaster" mechanical refrigeration units. It is also available with necessary duct work, if user needs it. For further information, circle 372 on the reply card.

Recording thermometers accurate within a half of one percent and with legible 12-in. Charts are Products of Wheelco Industrial Instruments Division, Barber-Colman Co., Rockford, Ill. Circle 376 on the reply card for more details.

Recording thermometer
by The Electric Autolite Co., Port Huron, Mich., charts reefer temperatures. It is available with either 24-hr electric or mechanical chart drive, or a 7-day drive. Standard model has a wall-mounted aluminum case, 5-ft braided capillary, and plain liquid or air temperature bulb. For more information circle 374 on the reply card.

Diesel reefer engine
from Daimler-Benz of North America, Inc., Flushing, N. Y., is rated at 35-hp-intermittent and 32-hp-con-



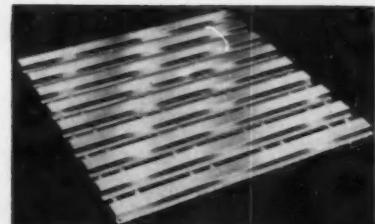
tinuous operation at 3000 rpm. It is Mercedes-Benz Model No. OM 636, a 4-cycle, 4-cyl, liquid-cooled engine, weighing 400 lb. For more information circle 373 on the reply card.

Reefer unit plug-in cords
from Autac, Inc., New Haven, Conn., automatically return to compact size



when unplugged. Called "Koiled Kords", they are guaranteed to spring back to coiled size for four years. For further details, circle 377 on the reply card.

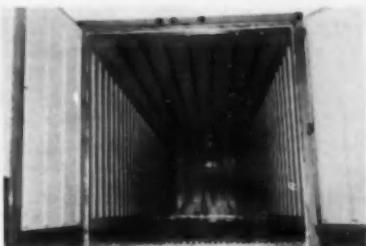
Reefer racks
which allow full air circulation are being marketed by Louisville Metal



products, Louisville, Ky. For more details, circle 379 on the reply card.

Recording thermometers
by Fischer & Porter Co., Warminster, Pa., have industrial models available which can be calibrated for almost any range. They are available electrically or manually wound, and can be adapted to particular needs with a wide range of options. For further information circle 375.

Reefer liner panels
by Landreth Industries, Inc., Chicago, are plywood with a fiberglass reinforced plastic surface. It is said they have high durability under impact



or abrasion, are odor free and outlast untreated plywood by four to six times. Circle 378 on reply card.

END

Please Resume Reading Page 108

LOUISVILLE CONCRETE SERVICE, INC.

"REDUCE MOTOR MAINTENANCE 50%"

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CENTURY

L-P GAS CARBURETION

Mr. S. D. Zenor, General Manager, Louisville Concrete Service, Inc., Louisville, Kentucky, reports . . . "our service includes seven Crane Carrier Corporation Mixer Master trucks. Six of these are equipped with Century LP-Gas Carburetion Systems. Upon careful comparison with identical gasoline operated trucks, we have recorded an average of 50% LESS motor maintenance and tune-up. Savings have also been recorded due to less frequent oil changes. In addition, we no longer suffer loss due to pilferage. The LP-Gas sealed tank system prevents syphoning or other means of looting which occur on gasoline trucks when parked. In addition our drivers report . . .

**... Instant Power on Take-off
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Borg-Warner Corporation
Decatur, Illinois

NEW WHITE COMPACT — Designed to make more deliveries per day, cut operating costs, reduce maintenance. Functionally engineered with high maneuverability to speed operations in congested traffic and terminal areas. Provides additional payload space, compared with competitive models. Manually operated torsion bar tilt-cab gives easy accessibility to engine.



BUSINESS



NEW WHITE 4200S — Every inch famous WHITE quality. Costs less to buy, less to operate, less to maintain. Truck, tractor and tandem models available. Ruggedly built for maximum payloads. Heat-treated, alloy-steel frame, nut-and-bolt construction for durability. Available with either Super Mustang gasoline or Cummins "C" Series diesel engines.



NEW WHITE PDQ — Exclusive features make it a real cost cutter for all types of multi-stop delivery. Low step-thru aisle, full headroom speed working the load. Removable power dolly saves cost of stand-by vehicles. Translucent skylight gives better inside visibility. Unitized construction cuts maintenance.

BOOSTERS

designed by **WHITE** to do more work
in less time...at lower cost

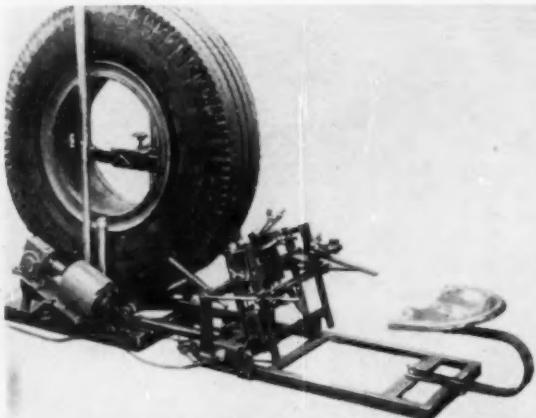
Ask for a demonstration . . . see for yourself how White has engineered these new Business Boosters to ease the squeeze on your profits. The White Motor Company, Cleveland 1, Ohio. Branches, distributors, dealers in principal cities.

WORLD LEADER IN HEAVY DUTY TRUCKS
WHITE TRUCKS



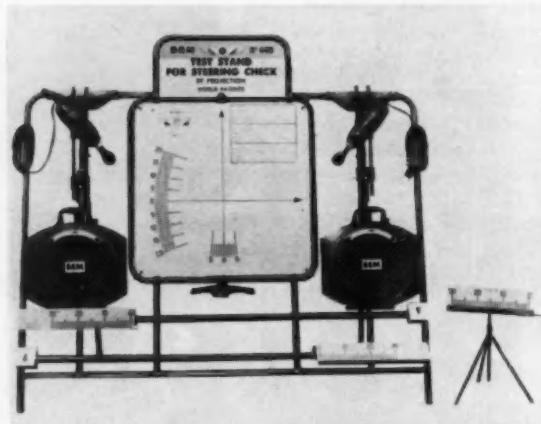
in shop equipment

**It's easy to get more details about the items described.
Just fold out and use free reply cards inside back cover**



Portable truck tire regrooving machine called the "Triple-T" by Truck Tire Tools, Inc., Tampa, Fla., grooves tires on or off vehicle. Attachments include one for regrooving tires on a lift-elevated bus and a spare tire rack (shown) for demounted tires.

For more information, circle 339 on reply card

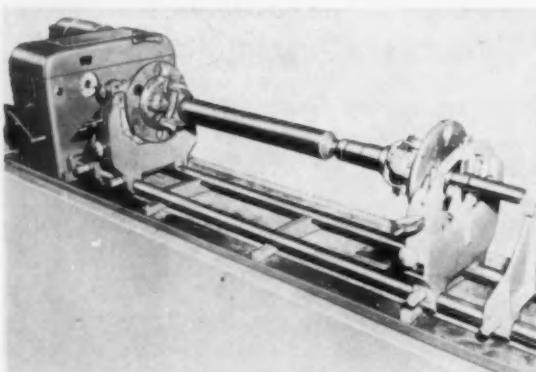


Portable wheel alignment unit can also be permanently installed. Western Services Corp., Linden, N. J., says the unit incorporates a perfected light beam system for direct reading of all alignment checks without additional devices.

For further details, circle 336 on reply card

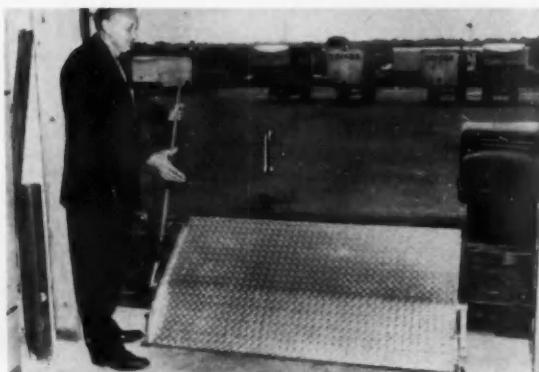
Engine and driveshaft balancer from Bear Mfg. Co., Rock Island, Ill., is the new Model No. 354B & RV for all fleet shops. Said to generate spindle speeds of 425 to 4250 rpm, it's adaptable to any rotating part within its capacity.

Want more details? Circle 337 on reply card



New non-mechanical dock plate offers the mobility of any mechanical plate without compressors or hydraulic lines, says Converter Top, Inc., St. Paul, Minn. It's said to be low in cost, easily installed, and operated by one man.

To get more information, circle 338 on reply card





One-end lift
with variable bumper clearance is the new Model No. 99, 1½-ton capacity unit from Walker Mfg. Co., Racine, Wis. The hydraulic bumper lift is said to feature lifting saddles which allow easy entrance into narrow areas between body and bumper on new model cars. Maker says the new V-type lifting beam gives variable bumper clearance.

More details? Circle 409 on reply card



New battery charger
called the Marquette Redi-Fast Model No. 322NS is a 6/12-V, 100/50-amp unit. Designed to handle every charging job, it's said to have built-in polarity protection for use on cars or trucks equipped with alternator systems. Maker says it gives positive protection against reverse charging and against damage to wiring harness or diodes.

More details? Circle 410 on reply card



Shock absorber tool
from K-D Tool Co., Lancaster, Pa., is the Universal Model No. K-D 465, said to fit all makes of shock absorbers. Three wrench openings fit any size stud end to hold piston stationary while mounting nuts are tightened. Inside-threaded end reaches through mounting hole to thread onto piston stud end so it can be pulled into mounting position.

More details? Circle 411 on reply card

Chuck hole patching
material from The Monroe Co., Cleveland, Ohio, is called Zor-X. Said to give a permanent surface for driveways and parking areas, it needs no mixing before use. To assure immediate repair of dangerous "pot-holes," it may be applied in 15-deg F temperature or when pavement is wet.
More details? Circle 412 on reply card

Transmission parts cleaner
made especially for automatic transmission parts by Graymills Corp., Chicago, is called Trans-Clene. It's said to do a thorough cleaning job, yet is safe for aluminum and die-cast parts. Container sizes from 5 to 55 gal include a 16-gal size complete with dip basket.

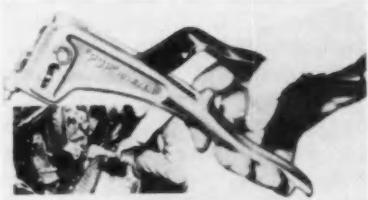
More details? Circle 413 on reply card

Improved safety solvent
offering detergent action plus controlled evaporation is new Turco-Solv from Turco Products, Inc., Wilmington, Cal. Designed for in-place spray cleaning of motors, generators, switches and other electrical equipment, it's said to be non-corrosive and non-conductive.

More details? Circle 414 on reply card

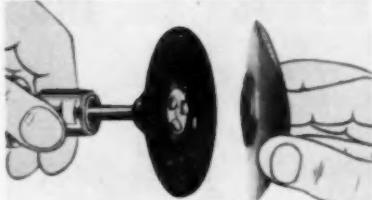
New body fastening method
uses "Pop" rivets and hand riveter offered by Marson Corp., Revere, Mass. The easy-to-use tool operates like a pair of pliers, fastens metals from 1/50 to 1/8 in. thick. Rivets are said to hold as well as welds, bolts and nuts, or screws.

More details? Circle 442 on reply card



New grinding disc
called Speedlok is said to lock securely to holder with just thumb pressure against center and slight clockwise turn of disc. Legvold Enterprises, Inc., Northridge, Cal., says disc stays centered, avoids vibration, has no metal fasteners.

More details? Circle 415 on reply card



Air hammer
with built-in power regulator is designated the Model No. CP-712 Zip-Gun by Chicago Pneumatic Tool Co. It features short-stroke, high-speed action said to save up to 75 per cent of cutting time in removing exhaust systems, brake drums, etc.

More details? Circle 416 on reply card





in shop equipment

Continued from Page 145

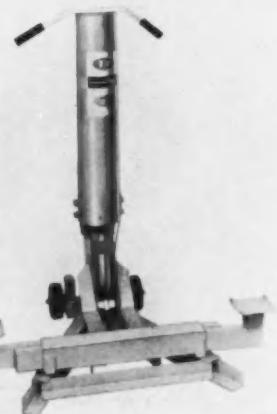
Fluxless universal solder called Tin-A-Lum joins any metals except black cast iron, says Metals for Industry, Inc., Jersey City, N. J. Applied with an ordinary soldering iron, it even solders aluminum and pewter.

More details? Circle 427 on reply card

New hand cleaner called Wilclean liquefies on hands to remove dirt and grease with or without water. Wilco Co., Los Angeles, Cal., says it prevents drying, helps to heal nicks and scratches and won't clog sink drains.

More details? Circle 428 on reply card

New air jack from Blackhawk Automotive Division, Milwaukee, Wis., features saddles which adjust from 15½ to 57-in. width and 8½ to 32-in. height. The



Model No. SJ-61, two-ton jack also features 15-in. front clearance from vertical column to saddles for reaching far under vehicles. It's said to safely handle cars and light trucks from front or rear.

More details? Circle 429 on reply card



ACCELERATION AT LYNCOACH!

Now 2 LYNCOACH PLANTS are running in high gear—one in Oneonta, N. Y. with expanded facilities, another in Troy, Alabama. Reason? To meet the growing demand for precision-engineered LYN ALUMINUM BODIES.

More fleets—big and small—are standardizing on LYN. Why? More strength and payloads... less weight, maintenance and

downtime. Versatile too! 45 standard sizes, three bright aluminum body models, plus optional accessories to meet almost any needs.

TWO Lyncoach plants in high gear means your LYN dealer can give you faster delivery on the exact LYN bodies you want... wherever you are!

WANT ACTION—FAST?

Contact your LYN dealer or write to: Dept. C
LYNCOACH & TRUCK CO., INC.

Oneonta, New York

LYNCOACH PLANTS IN ONEONTA, N. Y., TROY, ALA.



Beaded Panel

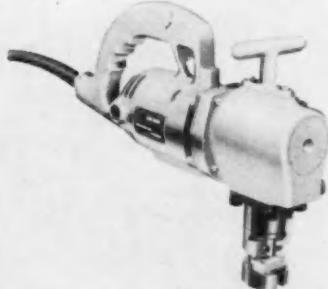


Outside Post



Smooth Skin

Portable Nibbler from Black and Decker Mfg. Co., Towson, Md., is said to develop the pressure of a 2-ton punch press.



Maker says the new Model No. 691, 8-gage, heavy-duty nibbler operates on a punch-and-die principle.

More details? Circle 430 on reply card

Thinner and feathering solvent called Bond Flow by D. S. Lahmers Co., Dover, Ohio, is said to eliminate sand scratches in acrylic and lacquer paint jobs. Maker says it's ideal for body paint touch up and spot work to produce maximum gloss and flow-out with medium drying time.

More details? Circle 431 on reply card



THE COLD LOGIC OF AIR BRAKE BUYING. A cold, logical bird, the owl. He plans his moves shrewdly—and is almost always successful in getting what he's after. Cold logic applies to air brake buying, too. Shrewd analysis of air brake devices and systems reveals a real difference between makes . . . in quality, performance and reliability. That's why it's important to consider the reputation and the record of all brands before you buy. When you do, you'll find Bendix-Westinghouse Air Brakes are the logical choice. Reason: Since 1923, we've manufactured to a quality and performance standard—not just to a price. This policy is your assurance you will continue to get most-value-per-dollar by specifying Bendix-Westinghouse Air Brakes—the product and name you can trust.

SPECIFY COMPLETE AIR BRAKE SYSTEMS BY

Bendix-Westinghouse





Bendix-Westinghouse

REPAIR
EXCHANGE
SERVICE

Renew **AIR BRAKE** performance, dependability with
BENDIX-WESTINGHOUSE REPAIR EXCHANGE SERVICE!



The warranty seal tells the story. Through the Bendix-Westinghouse Repair Exchange Service program—the finest in the industry—you can replace your worn or damaged airbrake components with factory-rebuilt units carrying the same warranty as brand-new devices. They incorporate the latest engineering improvements, and guarantee you new-unit operating efficiency at a low cost per mile.

The procedure is simple. Call or visit your nearest Bendix-Westinghouse distributor. He will provide you—

from stock—with a factory reconditioned unit at a low flat rate based on necessary repairs to your old equipment. In the unit you receive, all worn parts or those subject to deterioration will have been replaced with new parts. All components will have been assembled and tested in the same manner as new devices, with maximum performance guaranteed.

So, to renew your air brake system performance, see your Bendix-Westinghouse authorized distributor today. Let him supply the repair exchange service that's the Safety Standard of the World!

Bendix-Westinghouse

AUTOMOTIVE AIR BRAKE COMPANY

General offices and factory—Elyria, Ohio. Branches—Berkeley, Cal., and Oklahoma City, Okla.



CO₂ Pre-cooling

Continued from Page 105

CO₂ is injected into the trailer from a flexible hose leading from a storage tank to a coupling outside the trailer.

The plastic or stainless steel nozzle, which looks much like a fire extinguisher nozzle, is mounted on the reefer ceiling. When the CO₂ is piped in, it sprays carbon dioxide vapor and snow onto the cargo.

Normally, trailers with such a permanent installation go to a filling post where stationary CO₂ apparatus is used to inject the coolant.

Portable injection apparatus

The second method requires no permanently attached fixtures in the trailer. Portable nozzles are placed on the trailer floor and doors are closed as tightly as possible over the flexible coolant lines. When the operation is completed, the apparatus is removed and the doors are closed as quickly as possible.

Liquid Carbonic says the portable method is not so attractive or efficient as the one using permanent fixtures. However, precooling time is approximately the same, and the results are good.

The company says "Cold Shot" keeps the trailer on the road the hours it would normally be undergoing precooling, and reduces wear on the refrigeration system.

Moreover, Liquid Carbonic says the system is also valuable in emergency situations when the regular refrigerating unit has failed. The CO₂ precoolant may be used to keep the cargo at zero while the cooler is being repaired.

It may also reduce the amount of time cargo must sit in warm trailers between the time of loading and the point at which the trailer's refrigeration system has brought air temperature down to zero.

"Cold Shot" can be used to precool the product even before it is loaded. Liquid Carbonic suggests the system for cold storage rooms, or in containerization.

END

Please Resume Reading Page 106



Peanuts Characters © 1960 United Feature Syndicate, Inc.

Cheer up, Charlie Brown, he probably already owns a fleet of Falcons! After all, it is America's best-selling compact . . . best saving, too! Falcon is priced as much as \$505* less than other compacts. Yes, you read right . . . \$505! Falcon goes up to 30 thrifty miles on one gallon of regular gasoline...4,000 miles between oil changes. It helps keep downtime costs down, too. Tires, repair bills, and (in most states) even licensing and insurance cost less. See your Ford Dealer soon. Like today!

FORD DIVISION, Ford Motor Company.

*Based on similar comparison of deluxe 4-door sedans equipped with radio, heater and automatic transmission

†Based on a comparison of manufacturers' suggested retail delivered prices

THE FLEET CAR THAT SAVES YOU MORE



FORD **Falcon '61**

More details? Circle 176 on reply card inside back cover

16 MODELS of **FULLER** **3-SPEED** **AUXILIARIES**

Specify FULLER...

Specify the MODEL

**Get the 3-speed auxiliary
designed for your job.**

**HIGH CAPACITY . . . WIDEST RANGE
OF RATIOS . . . OPTIONAL TOP-
MOUNTED POWER TAKE-OFF . . .
LOW INITIAL COST, LESS MAINTENANCE . . . AVAILABLE FROM ALL
LEADING TRUCK MANUFACTURERS
ON SPECIFICATION**



Specify

Specify the MODEL

*Choose from 16 Models of
FULLER Three-Speed Auxiliaries*

**FULLER TRANSMISSION
DIVISION**
EATON MANUFACTURING COMPANY
KALAMAZOO, MICHIGAN

Refrigeration Equipment

Continued from Page 106

with all of the arbitrary charges, he said. It is impossible for any warehouseman to know what the rate is for all of the different commodities he is accepting, anyway.

In its place, the carrier (who knows the commodity he is carrying and the labor involved in loading it) should state on the bill of lading the length of time it should take to unload the shipment. That would eliminate guesswork on the part of the receiver.

And it will avoid the "unrealistic" use of weight as a guide to unloading time. In perishable commodities—most of which are shipped in units weighing from 10 to 40 lbs—the basis should be the number of cases.

He further suggested a review of the arbitrary charges for helpers. It is immaterial to the receiver whether one or three men unload a trailer. But it is often to the advantage of the carrier to get his truck back in service quicker. He added that the helper problem belongs to the carriers, and it is up to them to solve it.

A union problem?

Another speaker, a warehouseman, agreed that with refrigerated loads the biggest problem is unloading. Much of it is a union problem, he added.

Even though loads on pallets greatly speed up the loading and unloading times (and benefit the air circulation while the commodity is en route), it often is not used because of contracts calling for loose loading. Another factor in the limited use of pallets is space.

But he cited the case of one large warehouse which recently spent a half million dollars on fork lift equipment—and could use it only 25 per cent of the time. "Stupid" agreements requiring the carrier to unload by hand were blamed.

The warehouseman particularly recommended the use of pallets on full trailer loads because the higher utilization of the truck through

faster loading and unloading time would more than offset the space factor.

A spokesman for one of the nation's largest producers of frozen foods criticized the equipment—the reefers themselves—the firm has encountered in its national distribution.

As a result, they have set up this list of rules to which the carrier must adhere in order to get a contract:

- Trailers must have at least four in. of insulation capable of maintaining 0°F.

- Trucks must have floor racks or extruded floors with at least $\frac{3}{4}$ -in.-deep ridges.

- Sidewall circulation aids must be supplied by the carrier. And when frozen foods are loaded into the trailer, it must have a free flow of air at the front, rear, top, bottom, and sides. Packages will not be loaded to a height of more than 12 in. from the ceiling, and side circulation aids must reach the same height as the load.

- Load temperature gage must be easily readable outside of the trailer.

- Vehicle should be clean—free from any debris or odor.

- Company will not accept equipment with poorly fitted doors, or dangerous holes in floors, walls or ceilings.

The firm also has a list of "don'ts" which it gives to carriers:

- Don't make a promise to pick up loads unless you are positive you can make it at the appointed time.

- Don't use dirty equipment. It is an insult to us and our accounts.

- Don't contract with a lease operator whose equipment is poor because you think you will miss a load, or think you are doing us a favor.

- Don't buy or build equipment with only minimum standards. Reach a little for equipment geared to maintain the desired temperatures.

END

Please Resume Reading Page 107



Geared by FULLER . . . F. G. Campbell, President of Campbell "66" Express, stands beside one of the company's 85 Mack B61T Tractors, equipped with a Fuller R-96 10-speed ROADRANGER Transmission.

"We specify Fuller RoadRangers on all our road tractors, including our **85 MACKS**"

In 1959, the Fuller-gearied highway tractors of Campbell "66" Express traveled 22 million miles and handled one billion pounds of freight. The Springfield, Mo., carrier has standardized on Fuller Transmissions for a number of years, and has specified R-46 and R-96 ROADRANGERS on purchases of new highway equipment throughout the past three years.

Superintendent of Maintenance W. T. Royston says, "Our records show that ROADRANGERS give long life with less road failures than other transmissions. They average between 200,000 and 300,000 miles without an overhaul. The close, even steps between ratios permit drivers to maintain more constant and better speeds."

President F. G. Campbell adds,

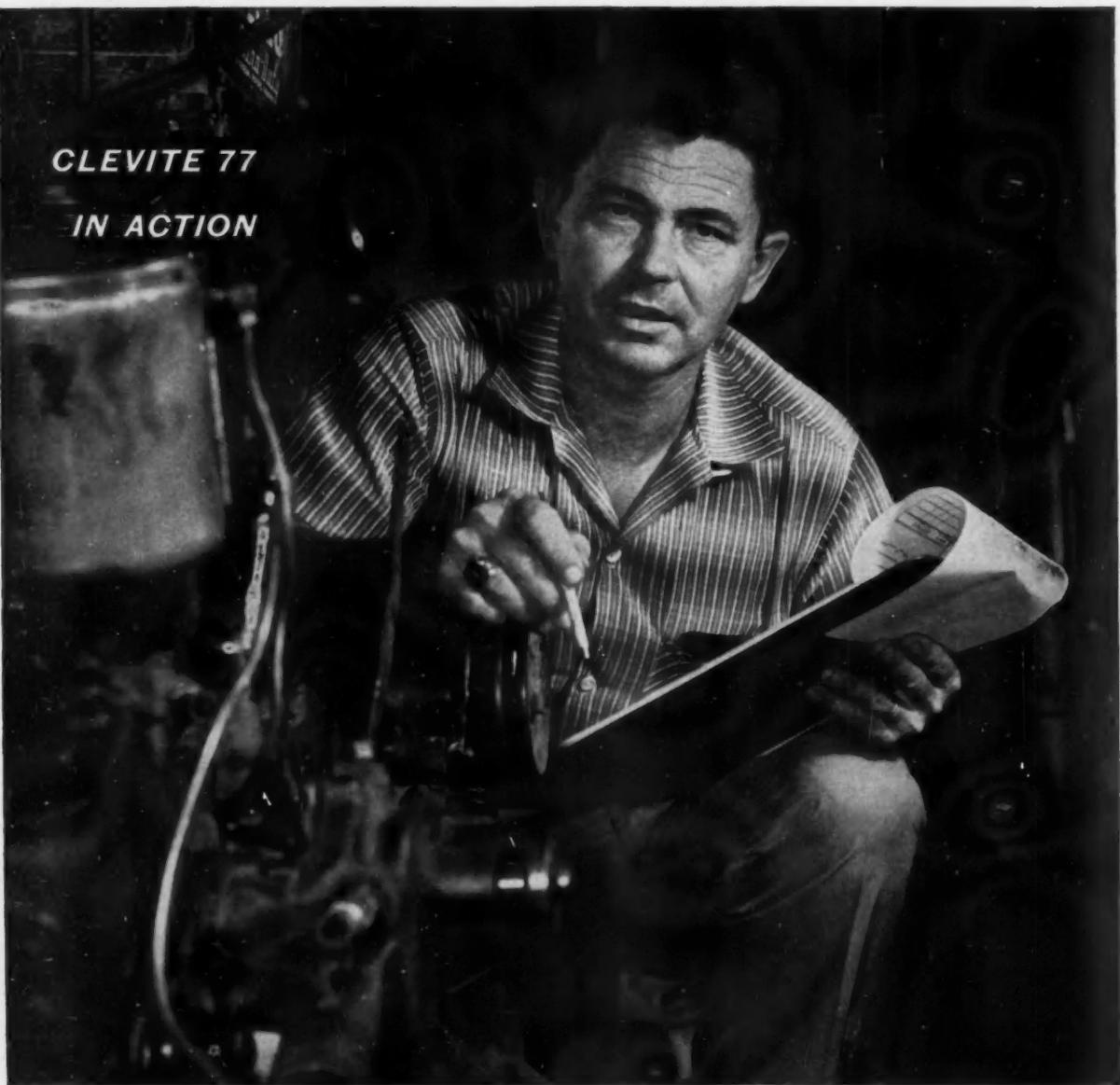
"We've found that we increase fuel mileage with the ROADRANGERS. They require less maintenance and eliminate trouble-making delays on the road. At present, we'll continue to specify R-46 and R-96 ROADRANGERS on our new road tractors."

Ask your truck dealer about the Fuller which is designed to put more profit in *your* operation.

FULLER TRANSMISSION DIVISION
EATON MANUFACTURING COMPANY
KALAMAZOO, MICHIGAN

Sales & Service: West. Dist. Branch, Oakland 6, Cal. • Southwest Dist. Office, Tulsa 3, Okla. • Automotive Products Co., Ltd., Brock House, Langham St., London W.1, England, European Rep.

**CLEVITE 77
IN ACTION**



"Clevite 77? They're the best....

...we've been using them for as long as I can remember. With more than 150 over-the-road units to keep rolling at a profit, we want only the highest quality parts in our engines. That's why we use Clevite 77 bearings—we know they'll do a top job."

Most fleet operators, like Mr. Fears, know that Clevite 77 bearings have the built-in quality to perform at a profit. Their patented tri-metal construction gives longer, trouble-free performance. For your next engine overhaul, get Clevite 77 from your NAPA jobber—he has a complete stock.

states R. O. Fears, Shop Superintendent
Delta Motor, Incorporated
Jackson, Mississippi

MONMOUTH Engine Bearings

CLEVITE SERVICE: Cleveland Graphite Bronze • Division of Clevite Corporation • Cleveland 3, Ohio



600 UNIT TRUCK FLEET

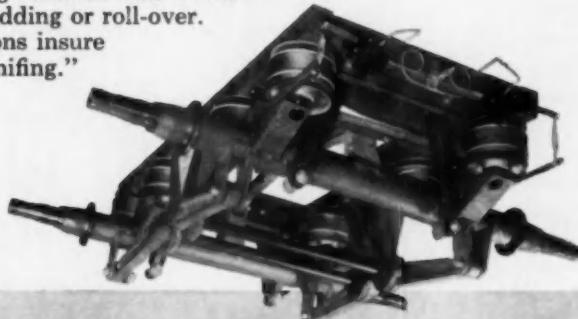
uses Clark Air Suspensions, names four major advantages

"Why," you ask, "should I buy Air Suspensions?" Even more specifically, "Why *Clark* Air Suspensions?"

Well, we *could* answer you direct. Obviously, though, we're prejudiced. But A. F. Posnik Company and its affiliates, Michigan Transportation and Superior Transport, one of the Midwest's biggest (600 units) and oldest (45 years) tanker-flatbed carriers, obviously are *not* prejudiced. Here's what Mr. Posnik says . . .

"We've tried all makes of air suspensions and are using Clark because we feel they're the best engineered for our kind of service. They give us at least four major advantages . . . Reduced road shock . . . permits lighter vehicle construction and greater pay loads. Lower maintenance . . . no more yearly replacement of steel springs. Improved stability . . . Clark's torsion bar equalizes wheel contact on winding roads as well as the straight stretches, thus greatly reduces chances of skidding or roll-over. Greater tire life and safety . . . Clark Air Suspensions insure equal axle loading, minimize tire-hopping and jack-knifing."

If you operate (or design) trucks or trailers, let us show you these advantages first-hand. Clark Air Suspensions can be installed on both new or in-use truck tractors and semis, on both single and tandem axles. Write or call for full details.

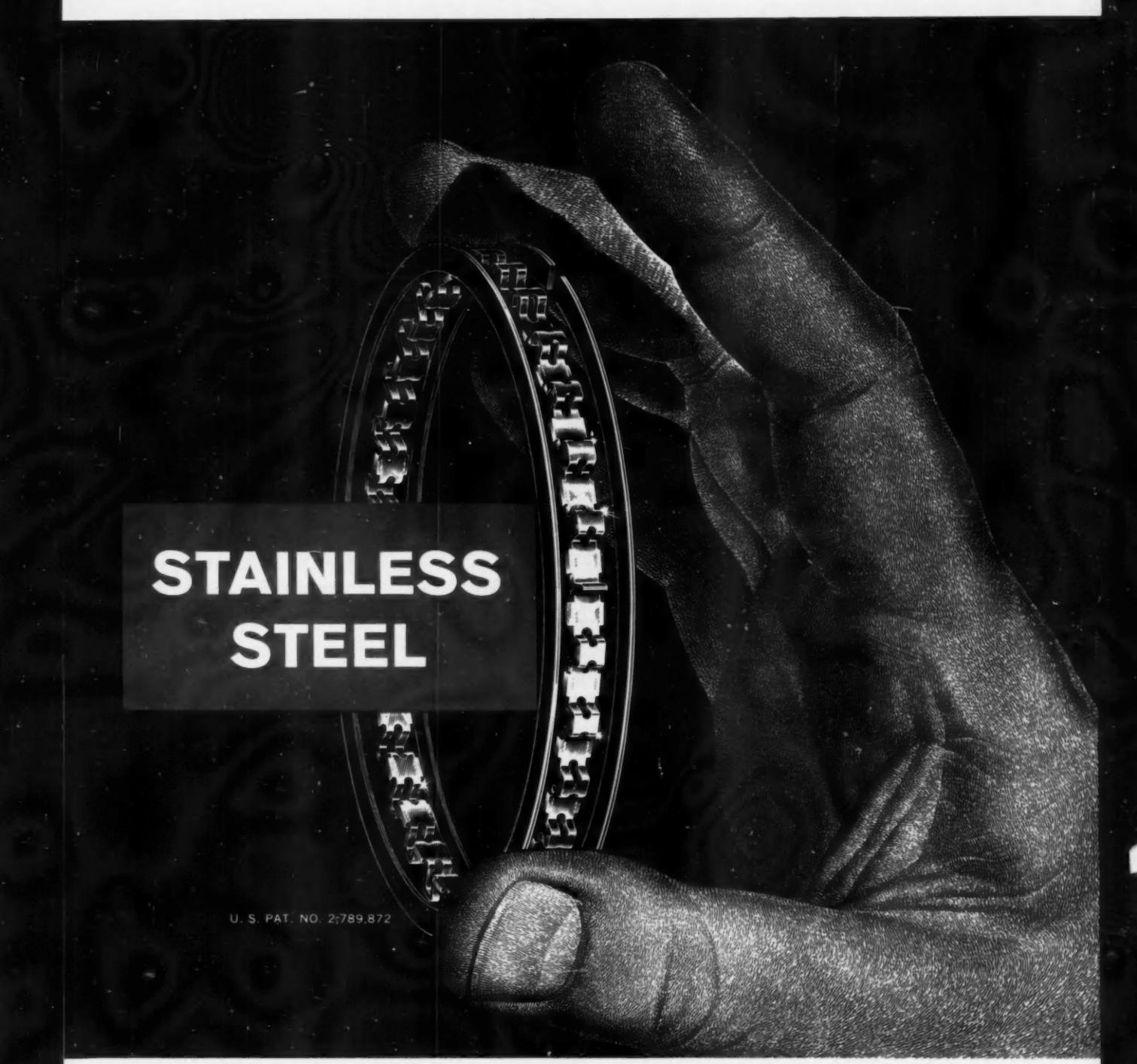


**CLARK®
EQUIPMENT**

CLARK EQUIPMENT COMPANY
AUTOMOTIVE DIVISION
Buchanan 3, Michigan

1960 New Truck Registrations*

STATE	Brock-way	Chevrolet	Diamond	Dodge	Ford	G.M.C.	International	Mack	Stude-baker	White	Willys-Jeep	Willys-Truck	All Others	Total
Alabama.....	1,004	4	115	773	269	230	41	13	38	19	13	113	2,630	
Dec. 12 Mos.	7,131	44	742	5,641	1,800	1,809	392	60	325	79	109	661	18,614	
Alaska.....	24	1	12	7	43	2	2	8	8	3	2	94	94	
Arizona.....	250	3	26	192	201	243	14	20	2	6	25	125	1,117	
Dec. 12 Mos.	206	1	55	281	88	40	3	9	9	9	16	22	832	
Arkansas.....	257	12	202	46	60	1	1	1	2	1	5	588	588	
Dec. 12 Mos.	6,382	13	531	5,276	1,423	1,510	42	68	74	51	45	201	15,616	
California.....	2,604	5	500	2,590	459	487	8	50	27	161	72	364	7,337	
Dec. 12 Mos.	37,073	165	4,681	35,672	8,237	7,196	247	604	869	1,102	1,036	7,350	104,244	
Colorado.....	391	4	68	342	84	89	2	9	5	44	73	31	1,142	
Dec. 12 Mos.	5,388	23	856	4,468	1,407	1,306	57	115	123	544	492	349	15,126	
Connecticut.....	136	2	38	110	37	69	11	8	10	24	57	54	558	
Dec. 12 Mos.	1,810	32	347	1,663	636	1,110	172	66	135	312	734	7,296	7,296	
Delaware.....	66	6	43	9	37	2	2	2	3	10	41	104	2,544	
Dec. 12 Mos.	747	10	154	565	200	451	155	7	85	13	10	9	194	
District of Columbia.....	85	8	8	38	17	28	2	2	10	9	14	14	2,725	
Dec. 12 Mos.	1,054	8	125	684	279	251	67	45	46	20	58	58	2,341	
Florida.....	742	7	71	737	255	191	63	7	17	44	58	149	25,238	
Dec. 12 Mos.	8,059	123	891	9,167	2,545	2,656	483	133	577	475	819	2,305	24,603	
Georgia.....	322	49	289	73	39	7	4	3	7	3	7	19	812	
Dec. 12 Mos.	8,319	50	1,109	8,246	2,116	2,644	396	152	374	106	171	97	24,603	
Hawaii.....	24	9	29	5	17	3	3	1	6	46	16	156	156	
Dec. 12 Mos.	542	2	187	821	115	302	4	3	49	39	338	307	2,909	
Idaho.....	191	53	133	86	61	3	10	1	7	22	14	561	561	
Dec. 12 Mos.	2,538	9	494	2,039	1,083	1,039	43	88	91	98	252	203	7,977	
Illinois.....	1,260	5	151	863	283	487	30	32	53	51	94	138	3,467	
Dec. 12 Mos.	11,831	266	1,777	10,376	2,966	5,904	386	363	561	396	811	2,111	37,727	
Indiana.....	756	99	1,180	8,317	2,107	3,543	422	360	503	135	330	1,100	23,988	
Dec. 12 Mos.	7,871	6	129	807	227	513	5	17	15	25	43	72	2,973	
Iowa.....	1,014	4	18	117	30	78	2	1	6	20	44	22	453	
Dec. 12 Mos.	5,667	57	684	4,718	1,280	2,940	52	116	83	120	200	605	16,552	
Kansas.....	321	2	30	296	64	97	2	1	6	15	3	839	839	
Dec. 12 Mos.	6,696	27	873	5,590	1,638	1,955	12	101	73	79	214	251	17,309	
Kentucky.....	441	34	266	83	85	7	3	9	14	20	1,091	385	13,755	
Dec. 12 Mos.	5,282	15	492	4,034	1,241	1,669	103	57	158	131	198	11,123	11,123	
Louisiana.....	451	33	426	82	78	10	2	3	7	9	42	708	18,352	
Dec. 12 Mos.	7,178	31	448	6,481	1,340	1,632	139	81	136	109	119	708	8,123	
Maine.....	114	18	117	30	78	2	1	6	20	44	22	453	876	
Dec. 12 Mos.	19	4	214	1,705	556	1,095	55	48	54	148	301	330	11,661	
Maryland.....	326	38	249	50	113	17	3	27	35	48	52	740	740	
Dec. 12 Mos.	5,345	26	830	3,202	728	1,743	223	36	276	257	446	565	10,580	
Massachusetts.....	5	34	187	58	114	8	4	22	22	54	52	34	3,787	
Dec. 12 Mos.	71	33	734	3,509	1,314	1,976	307	71	381	182	606	1,182	13,400	
Michigan.....	2,150	7	247	1,289	402	239	26	18	31	62	91	123	1,151	
Dec. 12 Mos.	18	102	2,437	12,339	4,400	3,311	244	214	476	506	896	1,007	40,250	
Minnesota.....	417	2	47	410	96	117	3	10	2	4	9	34	1,151	
Mississippi.....	5,677	54	824	5,091	1,311	2,374	98	160	124	75	203	565	16,580	
Dec. 12 Mos.	502	37	427	104	82	80	9	33	63	82	301	13,705	13,705	
Missouri.....	9,912	65	1,059	7,221	2,662	3,212	114	121	211	147	225	554	25,503	
Montana.....	139	20	118	37	47	8	4	8	19	13	417	257	7,291	
Dec. 12 Mos.	2,196	20	423	2,030	657	1,072	52	53	66	114	351	16	1,227	
Nebraska.....	417	4	52	377	74	158	82	3	11	8	25	12,856	12,856	
Dec. 12 Mos.	4,401	50	415	3,899	982	1,983	216	51	144	115	243	377	12,225	
Nevada.....	71	14	70	28	17	8	6	6	7	7	22	22	22	
Dec. 12 Mos.	782	3	204	773	418	426	9	48	13	62	104	204	3,044	
New Hampshire.....	1	54	3	40	18	1	1	1	3	12	28	18	226	
Dec. 12 Mos.	11	942	167	994	282	600	153	20	88	120	249	337	3,959	
New Jersey.....	9	471	81	465	224	35	10	48	78	122	94	1,796	1,796	
Dec. 12 Mos.	193	5,910	155	6,799	2,249	3,179	631	100	741	352	823	732	24,115	
New Mexico.....	257	31	220	61	38	1	11	1	14	21	10	663	663	
Dec. 12 Mos.	3,775	4	410	2,892	1,041	621	24	84	42	147	174	163	9,377	
New York.....	44	10,04	10	156	796	271	423	45	3	138	125	212	3,415	
Dec. 12 Mos.	448	162	2,489	12,810	4,240	9,198	214	1,633	1,059	1,965	1,015	51,730	51,730	
North Carolina.....	2	827	2	54	590	57	99	8	6	12	46	5	323	
Dec. 12 Mos.	3	7,812	30	942	8,521	1,936	2,198	265	150	388	194	751	25,396	
North Dakota.....	85	1	27	107	23	65	2	2	14	43	55	4,967	4,967	
Dec. 12 Mos.	1,580	15	274	1,496	361	1,025	2	26	2	85	85	2,796	2,796	
Ohio.....	1	794	4	125	903	231	327	54	16	73	15	12	3,746	
Dec. 12 Mos.	30	11,240	125	2,176	10,513	3,535	5,000	565	253	1,043	566	1,009	1,809	
Oklahoma.....	1,047	1	67	722	169	157	15	10	7	8	10	12	2,223	
Dec. 12 Mos.	9,497	14	867	7,304	1,771	2,109	114	101	176	79	129	249	1,590	
Oregon.....	490	1	71	447	208	144	8	27	17	15	62	100	1,590	
Dec. 12 Mos.	26	1,028	10	227	712	261	464	112	38	46	123	241	3,409	
Pennsylvania.....	12,608	233	2,765	10,004	3,119	5,879	1,450	291	987	1,092	1,015	1,009	40,418	
Dec. 12 Mos.	196	36	17	40	14	83	5	2	1	4	9	13	224	
Rhode Island.....	471	3	125	812	142	396	83	16	33	20	59	324	2,487	
South Carolina.....	1	250	26	251	54	66	98	7	7	6	18	765	765	
Dec. 12 Mos.	1	3,959	5	482	3,486	819	983	113	26	193	81	839	10,510	
South Dakota.....	117	13	82	30	58	3	3	3	1	5	4	7	324	
Dec. 12 Mos.	2	1,971	22	318	1,887	484	1,289	19	49	24	52	112	1,377	
Tennessee.....	485	45	434	98	112	7	9	15	7	18	26	1,525	1,525	
Dec. 12 Mos.	6,429	16	893	5,628	1,711	1,927	331	74	296	130	169	421	17,826	
Texas.....	2,622	4	205	1,936	380	380	19	39	33	45	45	82	1,521	
Dec. 12 Mos.	1	35,309	80	2,377	22,885	8,037	6,854	375	353	588	487	1,642	74,842	
Utah.....	169	1	48	190	57	78	2	3	4	8	3	11	574	
Dec. 12 Mos.	2,282	20	456	2,103	828	709	35	31	72	98	121	204	8,939	
Vermont.....	43	5	61	14	31	2	2	2	2	9	21	15	204	
Dec. 12 Mos.	9	756	7	108	716	265	390	63	26	35	138	235	3,016	
Virginia.....	488	2	68	413	95	169	15	8	20	64	137	46	1,525	
Dec. 12 Mos.	9	5,703	21	1,029	5,342	1,423	2,121	341	114	238	289	753	18,266	
Washington.....	309	58	226	107	58	7	7	3	6	15	21	817	817	
Dec. 12 Mos.	1	4,903	16	733	4,452	2,182	1,778	107	114	139	120	320	789	
West Virginia.....	158	1	20	150	46	148	2	7	7	19	49	22	829	
Dec. 12 Mos.	2,603	16	447	2,104	786	680	106	60	115	246	603	319	8,255	
Wisconsin.....	489	1	73	381	110	186	9	13	8	48	47	48	1,411	
Dec. 12 Mos.	5,481	60	750	4,496	1,652	3,254	171	116	203	372	527	601	17,889	
Wyoming.....	164	1	26	153	60	37	2	4	5	7	37	12	508	
Dec. 12 Mos.	1,785	6	244	1,420	608	586	22	45	38	102	263	165	5,287	
Total..... December, 1960	97	25,802	105	3,520	22,093	5,975	7,503							



STAINLESS STEEL

U. S. PAT. NO. 2,789,872

How to turn the clock back...

SEALED POWER STAINLESS STEEL OIL RINGS

Engines never had it so good. Sealed Power Stainless Steel oil rings give power plants a new lease on life . . . new-engine performance . . . new-engine earning ability.

Reason why? Simple. Sealed Power's Stainless Steel oil ring is proven in billions of miles of service and millions of installations. It's not experimental. It doesn't use your engine for a guinea pig. This ring works . . . it lives longer . . . and so does your engine. More? Definitely. Stainless Steel won't rust,

it resists pitting and corrosion. This means that carbon build up is greatly reduced—return oil vents stay cleaner longer.

Added advantages? These: Sealed Power's unique, patented design ends groove depth problems. Installation's a snap. No depth gauges, no springs, no shims. Chrome-plated side rails seat instantly and control oil right from the start. Mechanics swear by them... cost-conscious controllers do too! Sealed Power Corporation, Muskegon, Michigan.



Sealed Power

Stainless Steel oil rings stop oil pumping

PISTONS • PINS • SLEEVES AND SLEEVE ASSEMBLIES • VALVES • WATER PUMPS • TAPPETS

March News Roundup

Mack names Crockett general sales manager

PLAINFIELD, N. J.—Albert G. Crockett has been appointed general sales manager for Mack Trucks, Inc. He was formerly Mack's director of sales development. Assisting him as manager of field operations will be Wallace Hallam, former Atlantic division manager in Philadelphia.

SAE studies technology advances

DETROIT—Society of Automotive Engineers is meeting here, as you read this, for the group's National Automobile Week. Some 59 technical papers, many forecasting technological breakthroughs in automotive design and manufacture, are being presented.

Here's a name for a smooth ride

DES MOINES, IA.—Mrs. Howard M. Hanson's entry won Des Moines Transit Co.'s "name-the-bus" contest recently. She dubbed the company's new GM diesels—"Tranquilliners."

New York speeds bus schedules

NEW YORK CITY—It is reported that bus running time on several streets here has been shortened five to 10 min. The improvement results from a crackdown on car drivers who park in bus stop zones. The enforcement drive was preceded by a study that showed most time lost was due to passengers having to get around cars parked in bus stops.

Highways to meet future transport needs

ATLANTA, GA.—Current trends "point to the highways and away from the rails" as the main arteries of the nation's commerce, a spokesman for the trucking industry said here. James F. Fort, counsel-public affairs for the American Trucking

Month	1960 Domestic Truck Factory Sales by GVW										Over 33,000 lb. Total
	6,000 lb. and less	8,001- 10,000 lb.	10,001- 14,000 lb.	14,001- 16,000 lb.	16,001- 18,000 lb.	18,001- 20,000 lb.	19,001- 25,000 lb.	20,001- 33,000 lb.	Over 33,000 lb.		
January	51,988	14,438	1,111	2,662	15,481	4,985	2,934	2,566	96,178		
February	57,486	15,286	2,402	13,471	6,084	3,299	3,309	102,305			
March	58,578	15,714	989	2,611	13,261	6,715	3,786	3,502	105,438		
April	48,780	14,963	681	2,302	12,282	6,182	3,768	3,408	92,557		
May	48,216	13,739	900	2,294	13,546	6,073	3,186	3,214	91,266		
June	48,021	12,899	985	2,403	12,824	5,999	2,930	2,988	89,022		
July	30,881	9,533	710	2,294	16,275	5,166	2,420	2,504	84,053		
August	25,998	8,486	520	2,484	4,416	3,568	1,980	1,782	53,331		
September	35,941	9,110	715	1,946	10,522	5,548	2,064	1,880	66,001		
October	34,649	9,029	833	1,490	7,581	3,174	1,721	1,809	60,589		
November	45,023	11,168	833	1,607	9,109	2,952	1,735	1,496	73,923		
December	46,381	12,153	793	1,626	9,171	4,010	1,093	1,775	79,802		
Total—1960	531,431	146,549	10,236	26,111	136,049	35,674	31,709	30,213	974,472		
Total—1959	461,085	144,376	12,462	80,298	106,402	30,551	39,986	35,985	940,057		

Source: Automobile Manufacturers Association.

Assns. supported his contention by pointing out that railroads can serve "only within the reach of iron rails" while motor vehicles go "wherever there are roads, which today means everywhere men and cargoes may be."

The railroads, Fort said, "established in the latter part of the last century and the early 1900's a transport pattern which often dictated rather than obeyed its economic counterparts." His remarks were made during a panel discussion at the Southeast Transport Institute, held at the Dinkler Plaza Hotel, and sponsored by the Transportation Assn. of America.

Brown Trailer renews ATA Foundation alliance

WASHINGTON, D. C.—Brown Trailer Division of Clark Equipment Co. recently renewed its membership to the ATA Foundation with a grant of \$20,000 for highway research.

Nebraska Motor Carriers elect

OMAHA, NEB.—Leonard Abler of Abler Transfer, Norfolk, Neb., has been elected president of Nebraska Motor Carriers' Assn., Inc. Serving with him are Carl Schweitzer, executive vice president; State Senator Jack Romans, ATA vice president; and Mrs. Vern Detlefsen, president of the women's division.

Fleet safety firm founded

LOS ANGELES—A company which will specialize in driver improvement programs for professional drivers has been founded by a former fleet safety consultant for Ford Motor Co. Harold L. Smith and Associates will use the founder's "Smith System of No Accident Driving" which develops driver improvement through visual perception. Offices are at 2978 Wilshire Blvd., here.

More details? Circle 441 on reply card

Private Truck Council co-sponsors division of Fleet Safety Contest

WASHINGTON, D. C.—Private Truck Council of America members may now participate in the National Safety Council's National Fleet Safety Contest—whether they are council members or not. Through a co-sponsor agreement, the Private Truck Council members will enter a special division for private carrier fleets.

Diesel group establishes standard repair titles

KANSAS CITY, MO.—Association of Diesel Specialists has established standard work titles and classifications for repair and overhaul of diesel injection equipment. Classifications have been broken up into "complete overhaul," "necessary minor repairs," and "testing only." A complete explanation of work involved in each classification is outlined on a chart recently mailed to all members of the association. The chart lets the customer know what type and how extensive service will be in each category.

For free chart, circle 340

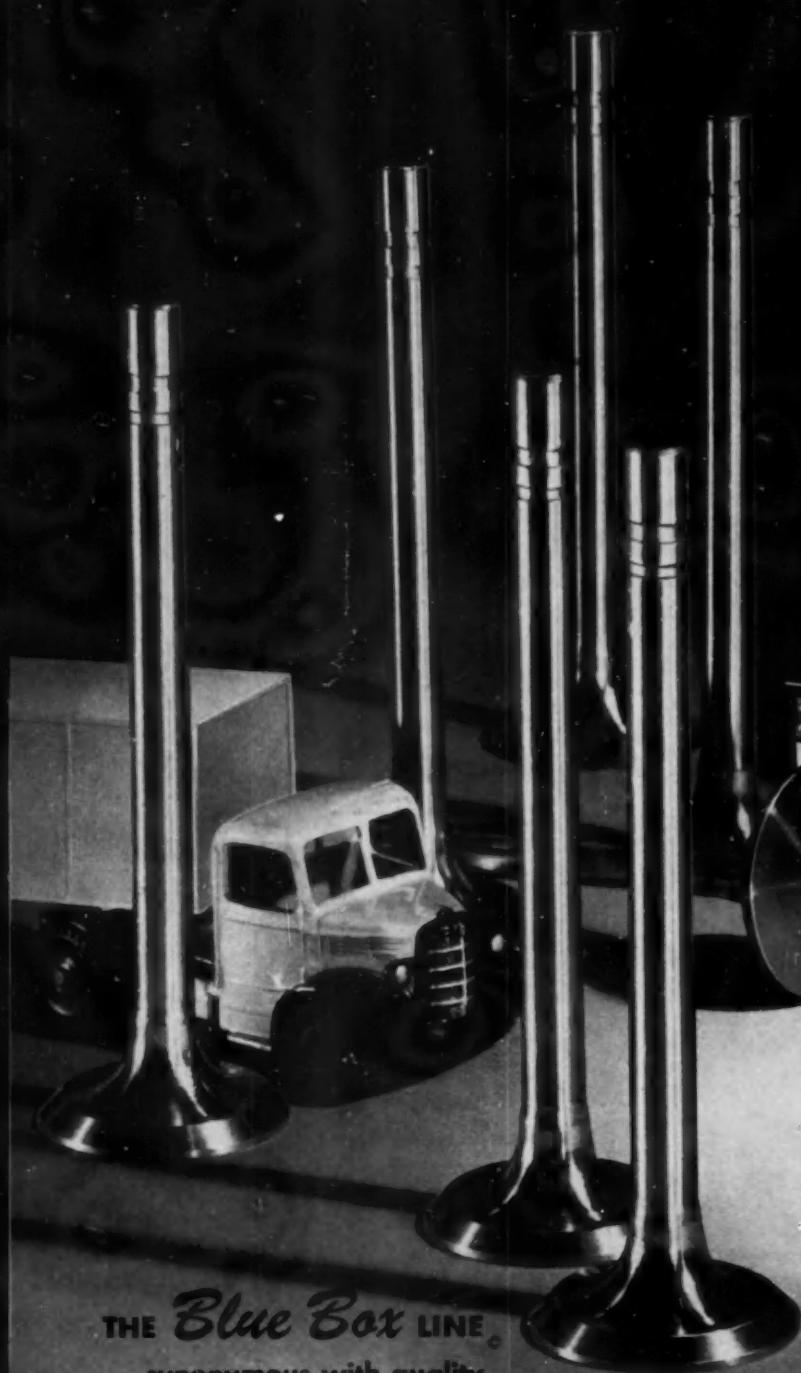
New Jersey uses gas tax to pay for grade crossing removal

TRENTON, N. J.—New Jersey's S.256, approved in 1960, provides that \$2-million be paid each year to the Public Utilities Commission—out of motor fuel tax revenue—to pay public share of cost of eliminating railroad grade crossings.

SAE publishes vehicle selection booklet

NEW YORK CITY—First four of the series of Society of Automotive Engineers papers condensed for the CCJ article, "Fleetmen Talk Vehicle Selection" (Dec., page 97) are being

(TURN TO PAGE 158, PLEASE)



THE *Blue Box* LINE.
...synonymous with quality

McQuay-Norris Valves are made of special alloys that hold up under operating temperatures even higher than normal...offer such design extras as Eatonite hard facing...sodium cooling...rotation features. Liberal margin land or headlip lets valve run cool, permits more refacing. Specify McQuay-Norris Valves for greater economy—longer wear.

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CUT FLEET TIRE COSTS

with

"Balanced Inflation"

...automatically



ECO TIREFLATOR®

One Eco Tireflator® in your truck shop can equal in annual cost-savings one free new tire for every truck in your fleet! Automatic Eco "Balanced Inflation" increases tire mileage—up to 20% more than you get from improperly-inflated tires. Tireflator trims checking and tire inflation to a labor-saving one-step operation — no gauge-hunting, no trial-and-error.

Whether your fleet is large or small, Eco Tireflator's "Balanced Inflation" lowers losses from vehicle down-time, helps maintain tight schedules, and increases tire life and safety.

Wall, post, and remote-control models let you put Eco Tireflators wherever they serve you best.



JOHN WOOD COMPANY

BENNETT PUMP DIVISION
Muskegon, Michigan

March News Roundup

Continued from Page 156

published a second time. The papers have been printed as Volume II of SAE's new "Technical Progress Series," now available at nominal cost. Prepared discussions for the sessions was included with the papers. An SAE spokesman termed CCJ's condensation of the talks "excellent."

More details? Circle 440 on reply card

Rockwell-Standard becomes 31st ATA Foundation member

WASHINGTON, D. C.—Rockwell-Standard Corp., has become the 31st member of the American Trucking Association Foundation with a grant of \$25,000. The money goes for the first year of a continuing study of highways and motor carrier service as factors in industrial development

(TURN TO PAGE 160, PLEASE)

1960 Truck Trailer Shipments

Type of Trailer	December	Twelve Months
Vans		
Insulated and refrigerated	355	5,489
Steel	46	728
Aluminum	309	4,740
Furniture	50	1,847
Steel	38	1,591
Aluminum	12	256
All other closed-top	1,205	25,060
Steel	402	6,522
Aluminum	803	18,528
Open-top	173	2,643
Steel	53	757
Aluminum	120	1,886
Total—Vans	1,763	35,009
Tanks		
Non- and low-pressure		
Petroleum		
Carbon and alloy steel	94	1,502
Stainless steel	14	230
Aluminum	96	1,667
Total—Petroleum	204	3,419
Chemical, food, fluid solids	36	699
All other, incl. aircraft refuelers	37	1,063
High-Pressure (LPG), chemicals, etc.	68	424
Total—Tanks	345	5,625
Pole, pipe and logging		
Single axle	16	221
Tandem axle	12	737
Total	28	958
Platforms		
Racks, livestock and stake	23	451
Grain bodies, all types	83	1,140
Platforms (flats), all types	421	8,334
Total—Platform	507	9,925
Low-bed heavy haulers	172	2,158
Dump trailers	53	1,427
All other trailers	141	3,261
Total—Complete Trailers	3,029	55,363
Dump trailer chassis	36	763
Trailer chassis only	200	2,034
Total—Trailers and Chassis	3,267	51,995
Detachable Van Bodies	132	2,702

Source: Industry Division, Bureau of the Census.

Better products, *faster*, from your Federal-Mogul jobber:



Federal-Mogul builds an extra-service bearing for the long haul

Wear robs engines of power, and rigs rolling over turnpikes put vital engine parts to rigid tests. That's why Federal-Mogul developed an engine bearing with superior wear characteristics.

This bearing is the Federal-Mogul C-P sintered engine bearing. It's made in five separate layers. (1) The back is steel for strength, (2) sintered copper-lead alloy provides the prime bearing sur-

face, (3) barrier plate stabilizes lining, (4) lead-tin overplate for break-in and, (5) tin flash plate resists corrosion.

This bearing will outlast ordinary bearings by thousands of miles. More important, it will give you a better performing engine throughout the rebuild life. Be sure you get the best . . . specify Federal-Mogul. Most fleet owners do.



FEDERAL-MOGUL ENGINE BEARINGS

FEDERAL-MOGUL SERVICE

DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC. • DETROIT 13, MICHIGAN





PROVEN for 30 years

to REDUCE maintenance,
operating costs and
extend engine life

- STOPS CARBON BUILD-UP
- STOPS STICKING VALVES
- STOPS RING WEAR
- STOPS CORROSION
- STOPS SLUDGE AND VARNISH

LUBAL BLENDING AGENTS used in diesel fuel, gasoline and lubricating oil will minimize down time and excessive overhauls. They are specifically compounded to eliminate the causes of pre-ignition, remove carbon abrasives in the fire zone area, and thoroughly lubricate the critical upper cylinder area. Use LUBAL for bulk treatment or for individual engines.

MONEY BACK GUARANTEE

USE LUBAL FOR 3 MOS.

Convince yourself . . . LUBAL will improve and increase gasoline and diesel engine performance . . . or your money back. Write for full details and OUR NEW BROCHURE.

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BLENDING AGENTS FOR DIESEL
FUEL, GASOLINE, LUBRICATING
OILS, AND HEATING FUEL

DIVISION OF JOHN HOLT & COMPANY, INC.
375 W. Rich St., Columbus 22, Ohio

More details? Circle 261 on reply card

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March News Roundup

Continued from Page 158

and plant location. R-S indicated it would grant another \$25,000 to complete the work, expected to take 18 months.

New traffic signs in the offing

WASHINGTON, D. C.—U. S. Bureau of Public Roads has adopted new designs recommended by the American Assn. of State Highway Officials. "Hundreds of thousands" of signs presently in use will become obsolete. Some will be larger, locations of others will have to be changed, all will have to follow a uniform color scheme. New designs will be required on new roads at present, will be used when replacing existing ones.

New Feature Editor



Jim Hamilton, a former CCJ assistant editor, has rejoined the staff after an absence of three years. He spent two years in the Army, and another year earning a Master's degree in Journalism at the University of California—Berkeley. Hamilton first came to CCJ after work with three fleets in the Mid-South during his college years.



Wyoming—amends provisions regulating vehicle registration by residents and non-residents (H.23); amends fees for certificate of title (H.24).

(TURN TO PAGE 164, PLEASE)

For any automotive use of MOLDED FIBER GLASS

call the pioneers and experts.
Free literature, counsel and quotations. No obligation. Write:

MOLDED FIBER GLASS BODY CO.

4637 Benefit Avenue
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More details? Circle 262 on reply card



ILLINOIS TOLLWAY, Hinsdale, Ill.
Phone HINSDALE FA 3-9000
CHICAGO BI 2-3820



More details? Circle 263 on reply card

COMMERCIAL CAR JOURNAL, March, 1961

Classified Advertisement

HELP WANTED: MAINTENANCE SUPERVISOR for North Jersey area operation. Must be fully experienced in truck maintenance and supervision. Salary open. Box 5, Commercial Car Journal, 5601 Chestnut St., Philadelphia 39, Pa.



Enjoy full earning power with genuine Mack parts

Few truck operators would consider buying "will-fit" parts or "back-alley" service if they realized the few pennies saved could cost many lost dollars because of increased vehicle downtime and road failures.

Yet some operators run this risk, driving their operating costs up unnecessarily.

Truly cost-conscious operators, on the other hand, retain peak fleet performance by specifying genuine Mack parts and Mack-approved service.

Mack replacement parts are built to match perfectly the operating characteristics of your Mack.

Enjoy the full measure of the Mack truck earning power you invested in originally. Specify genuine

Mack-built and Mack-approved parts, and—if you do not service your own fleet—Mack service at any one of 375 Mack branches and distributors. By doing so, you not only get years of dependable, trouble-free performance, but you maintain the low-cost operation built into your Mack. Mack Trucks, Inc., Plainfield, New Jersey. Mack Trucks of Canada, Ltd., Toronto, Ontario.

MACK
FIRST NAME FOR
TRUCKS

6076

PM* or REPAIR...

Avoid unplanned downtime . . . Keep rolling equipment on the move; keep stationary units and tools in operation by making necessary bearings replacements with New Departure Ball and Hyatt Roller Bearings. They have become the standards of the industry because of their reliability and long life under the most severe service conditions.

Whatever the reason for equipment being out of service and in the shop, the important thing is to get it on the job quickly and keep it working. New Departure and Hyatt Bearings help you do it. These top quality, precision bearings are close at hand through the national network of Authorized New Departure and Hyatt Distributors.

* Preventative Maintenance

HYATT



roller bearings come in a wide variety of types and sizes from $\frac{3}{4}$ " OD to 14" OD. They handle radial loads of up to 103,000 pounds, speeds as high as 50,000 RPM. Standard bearings operate efficiently from below zero temperatures to 450 degrees F. Special steels, if desired, push the temperature range higher.

METRIC SERIES . . . Precision roller bearings for transmissions

and gear boxes with built-in extra capacity. Will handle heavy radial loads, with intermittent thrust loads.

WOUND ROLLER

. . . Made in all sizes, operates with inner race or directly on shafting. Resists extreme shock, abrasion and fatigue.



NEW DEPARTURE

ball bearings have a wide range of seals to retain bearing lubricants and keep out contaminating matter. Each seal is designed as an integral part of a bearing. The result is greater bearing efficiency, less downtime, longer life.



LAND-RIDING SEAL AND TRASH SHIELD . . . Excellent for severe contaminant conditions, moist or dry. Rubber is bonded to steel insert, crimped into outer ring.



LAND-RIDING SEAL, PRESSED . . .

For severe conditions. Rubber is bonded to rigid steel "L" frame and pressed into outer ring ID for positive seal.



SENTRI-SEAL . . . Most popular seal in use today. For every contaminant condition. Metal insert, molded in rubber seal which has positive contact with ground inner ring groove.

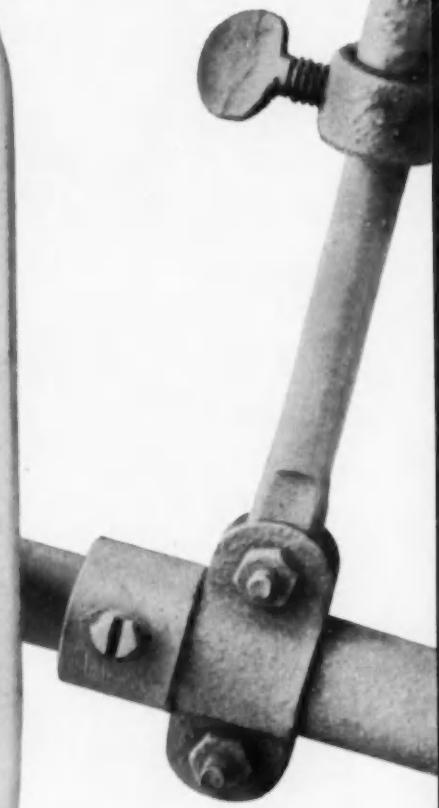
HYATT
NEW DEPARTURE

Available nationally through UMS Authorized New Departure
and Hyatt Bearings Distributors



BENDIX HYDROVAC® POWER BRAKES

Lead the field
in three
important areas:



1. **BIGGER PAYLOAD**—Because Bendix Hydrovac Power Brakes weigh less, they permit hauling increased payloads—up to several hundred pounds *extra*.
2. **LOWER PRICE**—Bendix Hydrovac Power Brakes cost *less to buy—also less to operate, less to maintain*.
3. **BETTER PROTECTION**—Bendix Hydrovac Power Brakes have built-in standby safety; manual braking in case of power failure.

MORE BENDIX HYDROVAC VACUUM POWER BRAKES ARE IN USE THAN ALL OTHER MAKES

Bendix PRODUCTS
DIVISION South Bend, IND.
More details? Circle 186 on reply card inside back cover





Ship Line Buys 420 Fruehauf Containers

American President Lines is expanding its container service to the Far East with the purchase of 420 containers from the Fruehauf Trailer Co. Containers are 8 x 8 x 20 ft and lock together as Twin-20's for highway operation through contracts with private and common carriers. Containers also lock together vertically, horizontally and end-to-end when placed on board ship. Service will be offered on the West Coast from Los Angeles, San Francisco and San Diego to Okinawa, Japan and Korea in the Far East. Shown checking a model of the Twin-20's are (left to right): J. F. Conway, Jr., A. P. L. asst. vice pres.; George Killion, A. P. L. pres.; H. E. Foulkrod, Fruehauf exec. vice pres.; P. N. Teige, A. P. L. vice pres.; and L. F. Plummer, Fruehauf Oakland branch mgr.

No. BS 200
Brake Spring Dealer Stock
15 1/4" x 11" x 11 1/2"

New Brake Spring Dealer Stock will save mechanics' time

Here is another *Dorman engineered package* to save time for busy mechanics and solve service shop stocking problems. The new No. BS 200 Dealer Stock contains 64 highest quality brake shoe return springs in this attractive all-metal cabinet with clear plastic lid. There are 16 of the fastest moving sizes, packed in axle sets of four springs and including three new heavy duty springs. Rear of cabinet is open to hold back-up stock of the popular sizes and application sheet. No. BS 200 has the spring to finish the job. At leading automotive wholesalers.



March News Roundup

Continued from Page 160



Hughes Transportation, Inc., Charleston, S. C., recently recognized 17 drivers at the company's annual safety dinner. Awards presented were for flawless driving records of from two to 13 years.

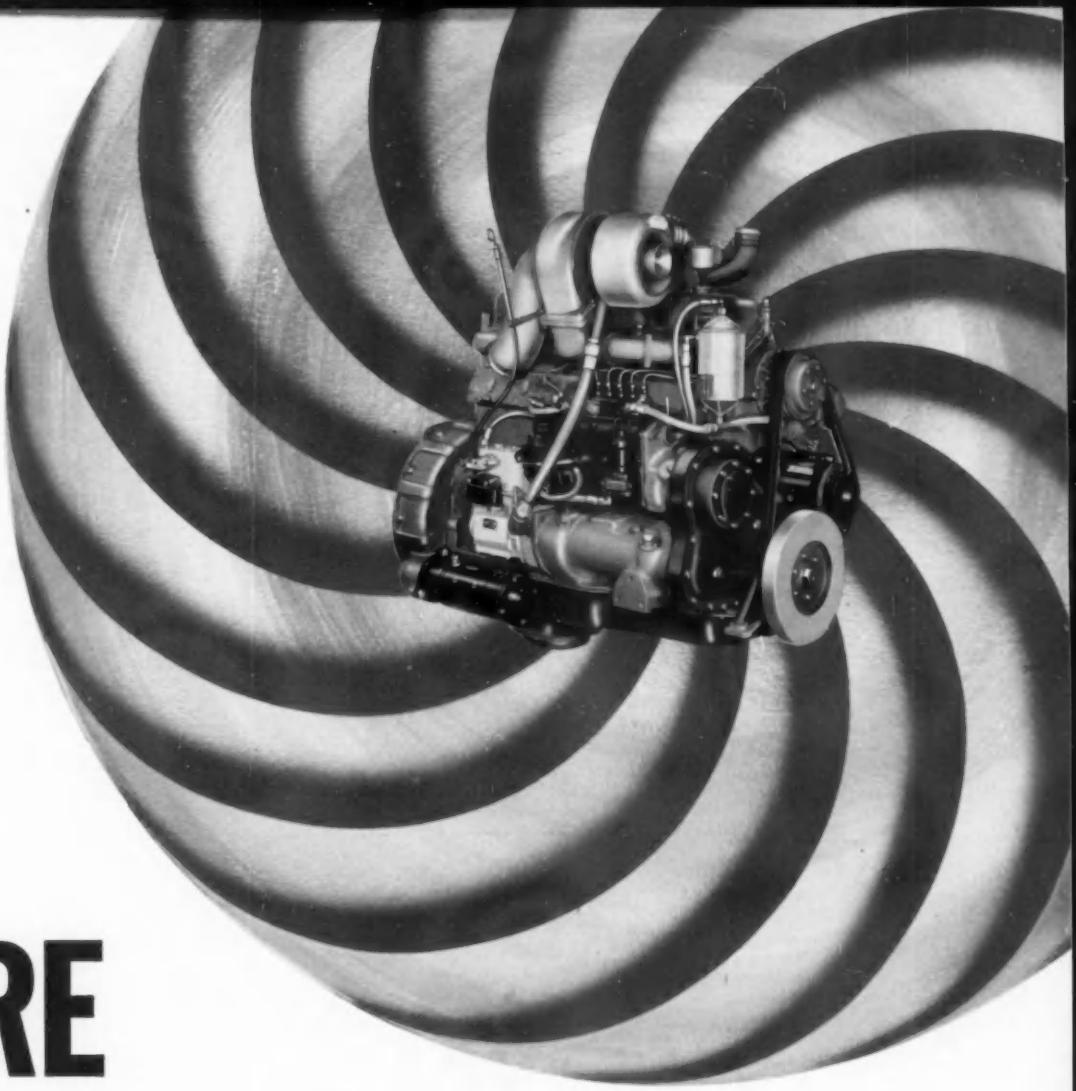
Central Truck Lines, Tampa, Fla., honored 36 drivers from various terminals at recent safety meetings. The men received awards for one to 14 years of accident-free driving.

The Willet Co. and Willet Motor Coach Co., Chicago, has announced that there are now seven members in Willet's exclusive 25-year Safe Driving Club.

Navajo Freight Lines' Nebraska Division recently received the top safety award from Nebraska Motor Carriers' Assn., Inc., at the annual meeting held in Omaha.



New Jersey State Police System — two-way transistorized radios for its entire fleet of vehicles, under a leasing arrangement with the Radio Corp. of America, New York City. More details? Circle 439 on reply card (TURN TO PAGE 169, PLEASE)



MORE POWER TO YOU WITHOUT EXCESSIVE WEIGHT

Owner-proved Mack Turbocharged Thermodyne diesel!

One of the big problems facing truckers today is getting the increased horsepower to haul loads in the 65,000 to 80,000-lb. class—*without adding excessive weight*.

Only Mack has the answer—the world-famous Thermodyne® diesel engine, turbocharged to 205 hp, but weighing only 115 lbs. more than the naturally-aspirated version.

With the Turbocharged Thermodyne diesel you get all the usable horsepower you need for top legal gross loads without adding 450 to 500 lbs. of chassis deadweight.

Put the Mack-built Turbocharged Thermodyne diesel to work for you to get the same kind of results as the profit-minded operators on the next two pages. Their comments are typical of those received from all parts of the nation from owners of Mack Turbocharged Thermodyne diesels. It's the ideal solution.



MORE PROVED PROFIT POWER TO YOU!

What makes Mack turbocharging your wisest choice for extra horsepower?

Aside from its additional power and its weight-saving advantages, owners state that the Turbocharged Thermodyne provides . . .

- Service-proved earning power
- Service-proved freedom from downtime
- Service-proved long life

These are the advantages Mack users are sure

of . . . these are the advantages that have made Mack the diesel truck sales leader year after year—with more diesel-powered trucks on the road today than the next two makes combined . . . twice as many as the nearest competitor.

Mack pioneered the market for automotive diesels in North America, maintaining its leadership ever since because it has continued to build the finest. This includes the Turbocharged Thermodyne, which truck operators all over the nation—like those shown here—are demanding for their higher horsepower applications.



HERMAN BROS., INC., Omaha, Nebr.—"Our thirty-five turbo Macks are the finest," says this Omaha-based hauler of petroleum products whose Turbocharged Thermodyne diesels return 5.5 mpg with 73,280-lb. GCW loads in tow. Best of all, says Herman Bros., is that its turbocharged Macks are never down except for routine maintenance. The twenty units longest in service have averaged over 200,000 miles at 1.4 cents per mile total maintenance.

HENNES TRUCKING CO., Milwaukee, Wis.—No breakdowns, no time out: that's the record of the Turbocharged Thermodyne diesels operated by this hauler of 78,000-lb. GCW loads of bulk cement in their Ohio operation. What more could you ask than 6 mpg . . . 60,000 to 65,000 miles each a year . . . four trips a day in hilly, curvy country . . . all with complete dependability.



NORTHWEST FREIGHT LINES, INC., Billings, Mont.—Despite hauling 65,000 to 68,000-lb. GCW loads over the mountainous terrain across the top of the nation, Northwest's Turbocharged Thermodyne diesel Macks average 5.4 miles per gallon of fuel with minimum maintenance costs and downtime.



SID CARTER TRUCKING, Amarillo, Texas—This operator, one of the largest cattle haulers in the nation, operates 20 Macks. Hauls are within a 1000-mile radius of Amarillo, encompassing all types of operating conditions: Colorado mountains, Arizona deserts and Southern swamplands. Despite this on and off-the-road service, Carter's turbocharged Macks average 5½ mpg, clocking 125,000 miles a year and 275,000 miles before overhaul.

ALLEN QUIMBY VENEER COMPANY, Bingham, Me.—In the East Coast logging trade, Turbocharged Thermodyne diesels at Quimby Veneer haul 66,000-lb. GCW loads over logging roads and highways, giving an average 7 miles per gallon of fuel. At 20° below zero the turbocharged Mack starts when nothing else will. Drivers for this leading birch veneer producer are sold on performance, handling and ride . . . management is sold on Macks' dependability and durability.



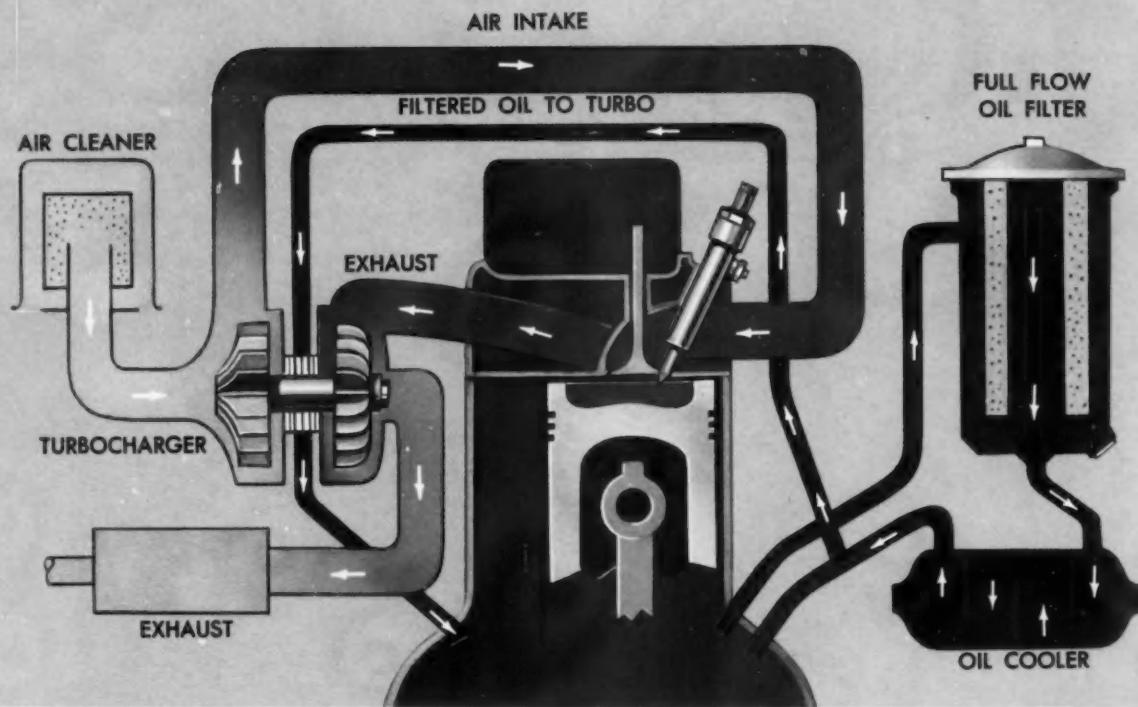
BILL HUSBY TRUCKING COMPANY, Menomonie, Wis.—On mountain runs to the West Coast the Mack Turbocharged Thermodyne diesel is giving Husby Trucking a healthy 5½ miles per gallon of fuel, while on the more level routes to the East Coast they give an excellent 7½ mpg. The company also reports that there's been no downtime to speak of on their five turbocharged Macks . . . and an impressive oil consumption figure of 900 miles to the quart.

TULIA PRODUCE AND TRUCKING COMPANY, INC., Amarillo, Texas—President Otto Leavell states: "Mack diesels are the most economical trucks I have operated. Our job requires high performance and speed, and Macks fill the bill." His fleet of five turbocharged Macks hauls 72,000-lb. gross from Amarillo to the West Coast, covering 2,500 miles in the round trip, and taking only 30 hours each way. All types of terrain are encountered, yet these turbocharged Macks average 5.5 mpg while each covers 156,000 miles per year. Engines average 450,000 miles before major overhaul.



HANEY TRUCK LINE, Forest Grove, Ore.—Downtime's been cut a big 60% over all previous units used to haul 76,000-lb. GCW doubles thanks to the Mack Turbocharged Thermodyne diesel. At speeds to 55 mph, Haney's Turbo Macks average better than 6 mpg, including mountainous routes. "Only one road repair in better than 375,000 miles . . . has convinced us our next truck will be a Mack," says Pres. Everett Haney.





MORE PROVED POWER TO YOU

*... with waste exhaust energy
doing the work*

For more power . . . more fuel must be burned. And to burn more fuel . . . more air is rammed into the exclusive Mack Air-Swirl combustion system—all without sacrifice of high thermal efficiency.

There in a nutshell is the secret of increasing horsepower without excessive weight.

Using waste engine exhaust gases otherwise released to the atmosphere, the Mack Turbocharger puts them to work driving a turbine cast integrally with an air blower. The blower takes atmospheric air and forces it into the intake manifold under pressure. This compact turbine-blower unit is the only moving part; it has no mechanical connection with the engine. Therefore, there is no parasitic horsepower loss.

The Thermodyne Turbocharger is lubricated and oil cooled as an integral part of the engine's lubricating and cooling systems. Engine oil is water cooled and thoroughly cleaned every cycle by full-flow filtration to prolong engine, turbocharger and oil life.

*... with Undivided Responsibility
made possible by Balanced Design*

Mack alone stands for Undivided Responsibility because it practices Balanced Design—building far more of its vital truck components, including engines, than any other truck maker in the heavy-duty field.

Balanced Design means Mack not only controls the quality of its components, but it makes sure its components work together in harmony . . . as an integrated unit. Thus, the Turbocharged Thermodyne engine gives you the same long life, the same trouble-free performance of every major Mack component.

And because Mack practices Balanced Design, you get unqualified satisfaction . . . Undivided Responsibility.

Why pay more for a vehicle or an engine made to the lowest common denominator of mass produced parts when Mack builds them to the highest standards in the automotive industry and assumes Undivided Responsibility. We build the product . . . and we stand behind it—100%.



MACK FIRST NAME FOR TRUCKS

Mack Trucks, Inc., Plainfield, New Jersey • Mack Trucks of Canada, Ltd., Toronto, Ontario

Printed in U.S.A.



8081

March News Roundup

Continued from Page 164

Good Humor Co., Los Angeles, Cal.—15 International Harvester Metro-Mite trucks as part of a fleet expansion program.

More details? Circle 438 on reply card

State of California—600 new 1961 Larks from Studebaker-Packard Corp., South Bend, Ind., for use by state officials.

More details? Circle 437 on reply card

Ewa Plantation Co., Honolulu, Hawaii—International Harvester Model No. F-230-V 175-in. wheelbase tandem tractor. The new unit is the first such replacement in the company's 85-truck fleet.

More details? Circle 436 on reply card

O. K. Motor Service, Chicago—eight Model No. G-75LST cab-over-engine, 6-wheel tractors from Mack Trucks, Inc., Plainfield, N. J. Powered by Mack Thermodyne diesel engines, the units feature an all-aluminum, forward-tilt cab.

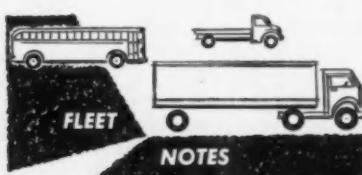
More details? Circle 435 on reply card

Daggett Truck Line, Frazee, Minn.—six International Model N DCOF-405 highway tractors as part of a fleet replacement and expansion program. The 140-in. wheelbase units feature 11,000-lb front axles, 5-speed transmissions, 220-hp diesel engines and 72-in. sleeper cabs.

More details? Circle 434 on reply card

City of Detroit, Mich.—257 new 1961 Plymouth and Valiant cars. Of the 159 cars designated for Police Dept. use, 61 are Suburban station wagons to replace sedans as patrol cars. Others are for use by the Fire Dept. and various other City departments.

More details? Circle 433 on reply card



Radigan & McGilly Moving & Storage Co., Cleveland, Ohio, recently furthered the cause of higher education by moving 41,000 volumes of books and 5000 phonograph records belonging to Cleveland's Case Technical University Library into Case's new humanities and library building. Carling Brewing Co. had

(TURN TO NEXT PAGE, PLEASE)

**Sell your business better—Everywhere
with MEYERCORD DECAL TRUCK SIGNS**

Travel any street or highway in America . . . everywhere you go you'll see trucks identified and decorated with Meyercord Decal Truck Signs. Like thousands of other trucks . . . your own fleet can "sell" your business to the public every hour of the day . . . when trucks become "moving billboards" promoting your firm name and message. You can do the job best with Meyercord Decal Truck Signs. One of the great advantages is complete uniformity of design and color on every vehicle in the fleet.

NOW! PROTECTED WITH COLOR-GARD!

All Meyercord Decal Truck Signs now have the added protection of our exclusive laboratory development, COLOR-GARD—the toughest, most durable "clear" ever produced for the decal and transferable film industry!

"ADS ON WHEELS" Full-Color

Brochure Free on Request.

Drop us a line on your firm's letterhead . . . for full color illustrated brochure.

More details? Circle 189 on reply card inside back cover

CONTINENTAL RED SEAL POWER

**FOR
RUGGED STAMINA
ECONOMY
LONG LIFE**

THIRTY-SIX TRANSPORTATION ENGINES ARE AVAILABLE

Thirty-one gasoline models, from 26 to 300 horsepower—five Diesel models, from 66 to 225 horsepower.

For nearly 60 years, Continental Red Seal transportation engines have found wide acceptance in the really tough jobs where extra stamina is a prime consideration—in heavy-duty highway trucks and tractors, both as original equipment and as replacements for other makes, in buses, taxicabs, door-to-door delivery vehicles, transport mixers and the like.



**Continental
Motors Corporation**

MUSKEGON • MICHIGAN

More details? Circle 190 on reply card inside back cover

March News Roundup

Continued from Page 169

a hand in the move, too, with a donation of 2500 beer cases for packing the books.

Global Van Lines, Los Angeles, Cal., recently held its first annual convention at Disneyland. As a climax, 10 of the company's van operators were presented with "Driver-of-the-Month" awards. This recogni-

tion is based on better customer service through efficiency, courtesy and ultimate satisfaction.

Hoover Motor Express Co., Inc., Milwaukee, Wis., recently began operations from a new terminal in that city. The new installation includes office and dock facilities with radio-dispatched trucking operation serving the Milwaukee area.

Border Express, Inc., Brewer, Me., reports the appointment of Lt. Forrest W. Clifford, commanding officer

of the Maine State Police Troop at Houlton, as full-time director of the company's fleet safety activities. He also screens all new driver applicants.

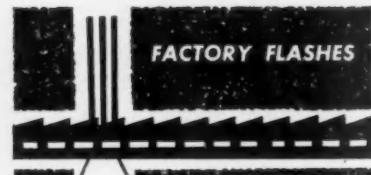
Saunders Truck Leasing System, Birmingham, Ala., announces that Chairman of the Board Harris Saunders has been awarded the Professional Manager Citation for 1960 by the Society for Advancement of Management.

United Van Lines, St. Louis, Mo., has published a textbook entitled "A Guide to More Effective Local Advertising for Agents of United Van Lines." For use by the company's agents, the book on principles of local advertising as they apply to the moving industry is to help improve quality and effectiveness of local advertising.

Cleveland Transit System, Cleveland, Ohio, uses a perfumed masking agent in fuel used in all its diesel buses. The product being added to the fuel is known as Deodall No. 1, produced by Sindar Corp., New York City.

More details? Circle 432 on reply card

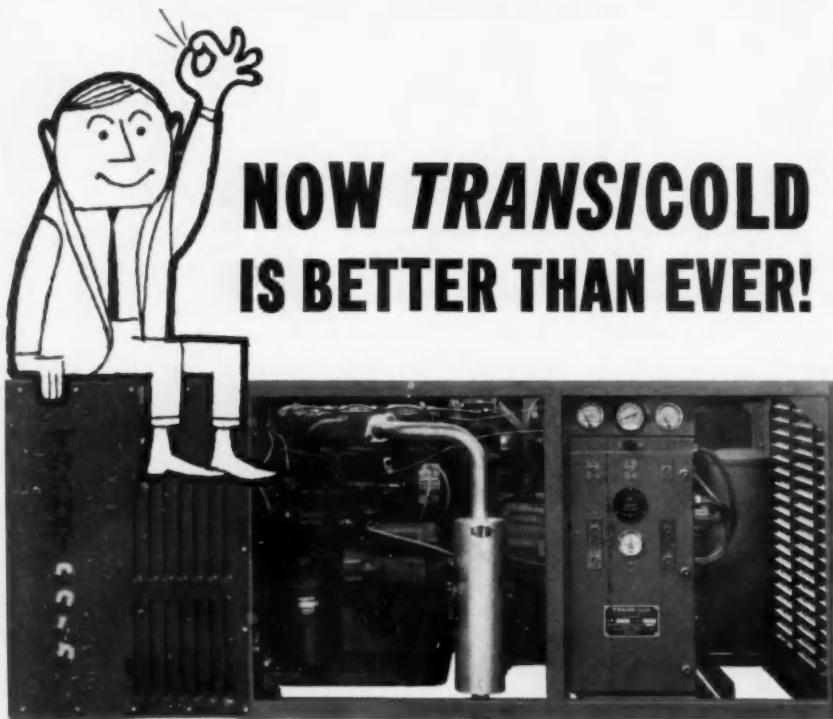
Babcock-Lee Petroleum Transport Co., Billings, Mont., announces the election of its president, Tim M. Babcock, as Lieutenant Governor of the State of Montana. Mr. Babcock is also Board Chairman of the Montana Motor Transport Assn.



U. S. Axle Co., Pottstown, Pa., now has a new unit for surface-hardening special-order shafts up to six ft long. The new induction heat hardening unit is said to penetrate as deep as $\frac{1}{2}$ in.

Ammco Tools, Inc., North Chicago, Ill., has announced the appointment of Frank Van Parys as southwest regional manager.

Ford Division, Ford Motor Co., Dearborn, Mich., recently presented an \$8000 college scholarship to 17-year-old Janet Riddell of Hollywood High School, Hollywood, Cal. It was the "best story" turned in from among 150 high school reporters who attended the fourth National Teen-Age Press Conference sponsored by the company.



THE NEW 230B DIESEL

The Transicold 230 Transport Refrigeration Unit was the finest in the refrigeration field, but we've improved it! The New 230B Diesel incorporates 15 improvements!

To get the complete story on Transicold's many exclusive features, see your local Transicold dealer or write:

1100 So. Taylor Avenue
Montebello, California
Telephone: OVerbrook 5-8480

TRANSICOLD



Official NADA records* prove

CHEVY'S HIGH TRADE-IN CAN HELP CUT YOUR FLEET COSTS!

Besides Chevrolet's low initial price and low operating cost, you can count on still another big saving at trade-in time. And you don't have to take our word for it. Check the official National Automobile Dealers Association records for yourself and see how Chevies *consistently* bring higher trade-in return than any other car in their field. Why? Because more people want Chevrolets than any other car. It's this greater demand (on both the new and used car markets) that keeps Chevy's resale value *up* to help keep your fleet costs *down*. And while you're at it, check your dealer on all the people-pleasing improvements in the new Chevrolets that not only make them better cars for business—but a better bet for higher trade-in in the years to come.

...Chevrolet Division of General Motors, Detroit 2, Michigan.



*Based on prices in the National Automobile Dealers Association 1961 USED CAR GUIDE, recent-model Chevrolets are now bringing a higher percentage of their original price than any other full-sized car in their field.

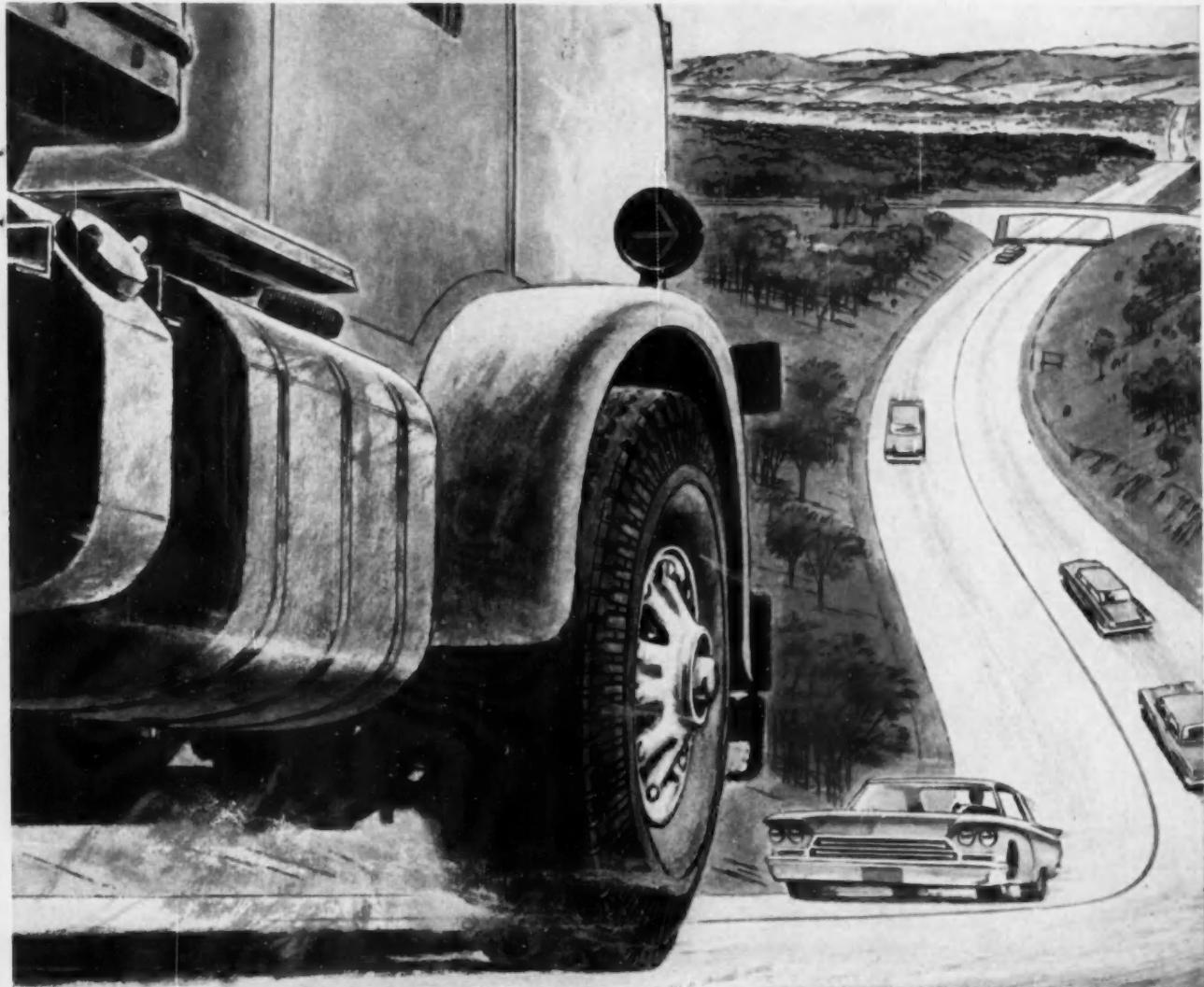
NEW FOR '61! U.S. ROYAL



Now
more traction, more mileage
where you need it most—
ON THE DRIVE WHEELS

PROVE-TEST U.S. ROYAL FLEETMASTER SUPER LUGS ON YOUR PRESENT EQUIPMENT, SPECIFY THEM ON YOUR NEW TRUCKS OR TRACTORS.

FLEETMASTER SUPER LUG



New Mileage Record

Test results show consistent 100,000 mile performance from this new nylon cord tire.

Flattest, Widest Tread

Greater stability, increased mileage, less tread flexing, reduced heat problem.

New Tapered Lugs

Lugs wider at center for extra support and added mileage, narrow at shoulders for more traction and maximum cooling.

Deep-Drive Traction Power

Full lug design, plus 449 traction slots give over 1000 extra inches of road gripping edges.

New Weather Protection

Exclusive chemical additives, including Flex-zone 3-C, protect this outstanding new tire against ozone and weather cracking.

New Post Inflation

Post-cure process controls nylon growth. New or used tires can be matched more accurately.

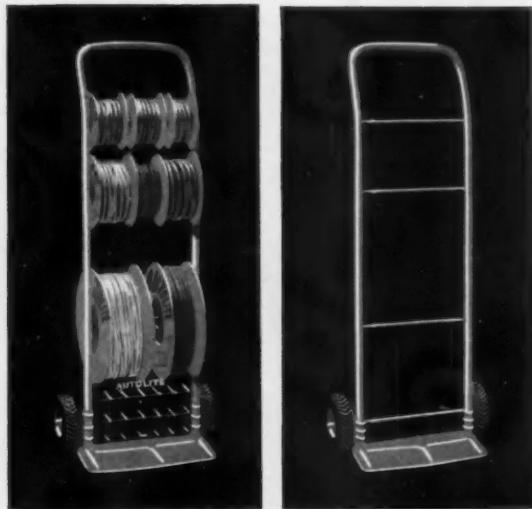
The full story is even more amazing. Get it from your U.S. ROYAL DEALER.

U.S. ROYAL  **TRUCK TIRES**

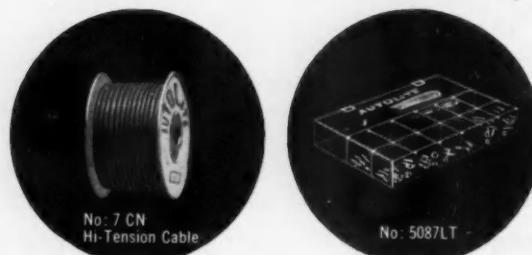
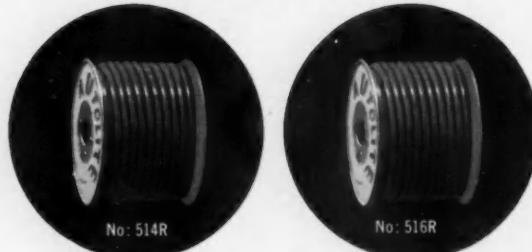


**UNITED
STATES
RUBBER**
Rochester Center, New York, 20

FREE!!! FREE!!!



THESE TWO



WITH THESE FOUR

What four? 500 ft. of 14 gauge wire, 500 ft. of 16 gauge, 100 ft. of 7 mm. sparkplug cable, and a selection of terminals in a plastic box. The free cart at the upper left is designed to carry the wire and cable. In fact, that cart can tote 5,000 ft. of various gauges. And there's a big base plate at the bottom for the terminal box (or a battery). What's the cart on the right for? For just about anything weighing up to 150 lbs. that you don't feel like

breaking your back with. Both these carts are free to both fleet owners and dealers. How can you go wrong? You get the best wire and cable and terminals made, plus

two carts that'll make your heavy days a lot lighter. Call your Autolite supplier now. AUTOLITE ANNOUNCES the availability of Multiple #3 and #4 Conductor Cable for fleet service. A new ICC regulation, effective July 1, 1961, outlines the need for this type of cable.



AUTOLITE
WIRE & CABLE DIVISION • TOLEDO 1, OHIO

NAME YOUR TRUCK! NAME YOUR TIME!



for the Truck you want...when you want it...

Hertz specializes in getting you the truck you want—and getting it to you fast! You get new Chevrolet, GMC or other famous make trucks. And you can choose from a wide variety of types—van, stake, panel, pickup or walk-in. Tractors and trailers are also available in many cities. All you need is proper driver's license and identification. And Hertz low rates include insurance, gas and oil, even if bought on the road.

Play it smart! Don't tie up needed cash in "stand-by" trucks that are used only as replacements or during

peak periods. Rent trucks from Hertz *when* you need them—and conserve your capital! Trucks are available by the hour, day or week. Also available on long-term leasing basis for economical year-round operation.

no investment...no upkeep

RENT HERTZ TRUCKS

More details? Circle 195 on reply card inside back cover

Maintenance cost study . . .

Continued from Page 115

These records will make possible an analysis of costs per mile, taking into consideration carrier differences common to all vehicles in each fleet and characteristics such as age, mileage, size and frequency of preventive maintenance and repair.

It is hoped the resulting "yardsticks" will be more than a series of "averages" of fleet records. For many carriers the "yardsticks" will be *ideals*. For others they will be handy comparative studies against which degree of improvement is gauged.

This difference in possible usefulness was planned by the researchers. They're looking for Class I and II common carriers of general freight whose maintenance records are uncommonly accurate and because they are both successful and complete operations. Remember this when you get the final results.

END

Please Resume Reading Page 116

DuBois Chemicals

Mr. Du assures thorough cleaning **INSIDE** and **OUT** regardless of soil conditions

DuBRITE . . . corrosion remover and brightener, used outside, cleans aluminum and stainless steel bright as new. DuBrite's fast, safe, economical.

VIBRA-JET . . . with DuBois' cleaners inside combine for complete removal of chemical residues, petroleum, food product soils. Vibra-Jet is made to suit your problem. No blind spots, or wasted action.

Ask DuBois' Mr. Du about these and other compounds for fleet maintenance. Look in Yellow Pages under "Cleaning Compounds" or write,

DUBOIS CHEMICALS INC
Broadway at Seventh • Cincinnati 2, Ohio
40 years of cleaning experience at your service

More details? Circle 196 on reply card inside back cover

Buy Bonds

MANAGEMENT OPENINGS AUTOMOTIVE SPECIALISTS

Our organization is seeking men of high caliber and initiative with a broad background in the automotive field. Two excellent opportunities are open for a

DIRECTOR OF AUTOMOTIVE SERVICES

who will be completely responsible for the operation and maintenance of a 5,000 unit fleet and an

AUTOMOTIVE ENGINEER

who will use his administrative and engineering skills in developing a wide variety of procedures and programs related to automotive equipment and maintenance.

If interested, write to Mr. Philip Carroll, Dept. of Public Property, 1302 City Hall Annex, Philadelphia 7, Pa., or call MU 6-9700, Ext. 42. Please indicate salary requirements and background.

More details? Circle 197 on reply card inside back cover

RIKER HEAVY DUTY Truck & Bus **MUFFLERS**

Different in Design. Construction, Performance and Long-Life Efficiency . . .
Write for FREE booklet that tells HOW and WHY.

RIKER MANUFACTURING, INC., 4901 STICKNEY AVE., TOLEDO 12, OHIO

More details? Circle 198 on reply card inside back cover



"We replace with LIPE CLUTCHES for tough, city stop-and-go service"

*T. R. Benamen, President, Food Transport, Inc.,
a subsidiary of Lease Plan International Corp.,
has this to say:*

"For the past nine years I have used Lipe Clutches as replacements in all of my thirty trucks. Many of them go 45,000 to 50,000 miles in city delivery service on my tractors alone . . . and in one instance, 125,000 miles on a straight truck."

Stop-and-go . . . creep-and-crawl . . . uphill-

downhill: Wherever terrain or traffic call for constant shifting, clutch maintenance costs are hard to keep in line.

Fleet owners from coast to coast have found the answer in Lipe DPB Clutches: More engagements between shop-stops. More total mileage. More miles per gallon of fuel. Lower cost per ton-mile.

Naturally, with results like these, one Lipe user tells another. And that's why . . .

the trend is to LIPE!



You can get Lipe Factory Exchange or Interchange Clutches for vehicles 18,000 lbs. G.V.W. and up. See your Lipe Jobber: He's listed in the Yellow Pages.



Lipe
CLUTCHES

LIPE-ROLLWAY
CORPORATION
Syracuse, N.Y.



Model 931CN-34DT with full-skirted sleeper cab

This diesel makes money on a hot high-cube haul It's Diamond T Tilt-cab 931C

WARREN G. SHAYLER Truck Line, Oklahoma City-based carrier, now has fifteen of these Diamond T Tilt-cabs flying his colors. They replace former leased equipment on hot-shot runs to St. Louis and Chicago.

Why Diamond T 931C's? Because they're proven money makers. Shayler checked widely before he bought, found that 931C owners say the Tilt-cab diesel is tops for power, performance and economy. Drivers like their ride and handling, too.

Proof of the pudding

The 1650-mile round trip to Chicago confirms 931C's earning ability. With a 40-foot square-nose trailer and a gross weight of 72,000 pounds, the

fuel bill shows a cost-cutting 5.8 miles per gallon. That's economy in any man's language.

Three versions of the aluminum and fiberglass cab are available. The 50" cab permits 27-foot doubles within 65 feet. There is a bustle-back sleeper and also a full-skirted sleeper with 30-inch berth.

All Diamond T's are custom built

Nine Cummins diesels from 195 to 335 h.p. power this great Tilt-cab series. Other options are 10 rear axles, 8 tandems, 9 main transmissions and 4 auxiliary transmissions.

Diamond T trucks are built to match the job. They are money-makers for their owners. See your Diamond T dealer. You will be glad you did.

DIAMOND T TRUCKS

Established 1905



*The Diamond
is for Quality*

Road Tests

Continued from Page 120

and excuses even before the officer could address him?" (The appearance and attitude of the driver often are guides to truck condition, and a tip-off to good or poor maintenance by the fleet operator. Highway patrolmen are quick to record all of these visible symbols.)

After a dozen or more trucks had been stopped and inspected, it became increasingly apparent that the number of trucks passing the inspection point had decreased. Drivers had sent out flashes over truck telephones that officers were checking at this particular point, prompting other drivers to switch to alternate routes. But CHP is an old hand at this game, and a second inspection crew was set up on an alternate parallel route to take care of the "dodgers."

The "dodgers," incidentally, often had reasons to avoid inspection. Chronic offenders with records of repeated violations of the California Safety Code find a rigid inspection awaiting them.

"Glad Hand" pressure gage

Ingenious portable scales to weigh questionable loads on the spot help hold delays to a minimum. Brake system checking is also quickly and accurately performed. Air leaks are found by using "glad hands" to insert a gage in the air lines for timing possible pressure drops. Air pressure on one vehicle dropped 60 lb within one minute, far quicker than the three-lb-per-min limit.

In most instances (even though

Hetzell portable brake tester records speed of truck and distance traveled after operator first applies brakes



"Glad hands" are used to bypass air line during test of air pressure drop

air losses were within allowable limits) actual stopping ability was checked with a Hetzell brake tester. This is quickly attached to the running board with a C-clamp. A cable leads from the tester through the window opening and connects to a foot pad switch placed over the brake pedal. The brake pedal actuates the solenoids in the tester.

The truck driver is then instructed to "level off" at 20 mph, and at the officer's signal he is to tromp down on the brake to stop the truck quickly. The speedometer needle on the tester is held by its solenoid to show the speed at which the truck was moving the instant the brake pedal was first touched. At the same instant a footage pointer is locked in position indicating the number of feet required to stop after the brake pedal is first touched.

More than 30 of these portable Hetzell brake testers are in daily use throughout California by the CHP. With this background of use, the testers are now available to highway enforcement departments of other states. They are already being used by several fleet operators as a part of their preventive maintenance programs.

Among the fleets using them are PIE in Oakland, several Los Angeles municipal and county fleets—Parks and Recreation department, County Fire department, County Flood Control department, County Safety Division, the U. S. Navy of Port Hueneme, Granite Materials of Sun Valley, and Ralph's Grocery Co.'s Glendale shop.

END

Please Resume Reading Page 124

a product of and for
TODAY'S TECHNOLOGY

ALMASOL 1225 BEARING AND CHASSIS LUBRICANT

CUSTOM-ENGINEERED

to withstand

- WASH-OUT

- POUND-OUT

- MELT-OUT

ALMASOL 1225 keeps working when "ordinary" gun lubricants break down and allow costly metal-to-metal contact, rapid wear, galling and seizing!

ALMASOL 1225 combines the finest available paraffin-base oils, refined to maintain the highest degree of lubricity, superior adhesive properties and resistance to oxidation, and ALMASOL, a specially refined additive possessing tremendous load-carrying ability, resistance to all types of acid wear, under high temperature conditions **without change** in these vital characteristics!

Lubricants that were barely adequate in 1957 cannot be expected to do the jobs demanded of today's equipment. Protect your investment with ALMASOL 1225!

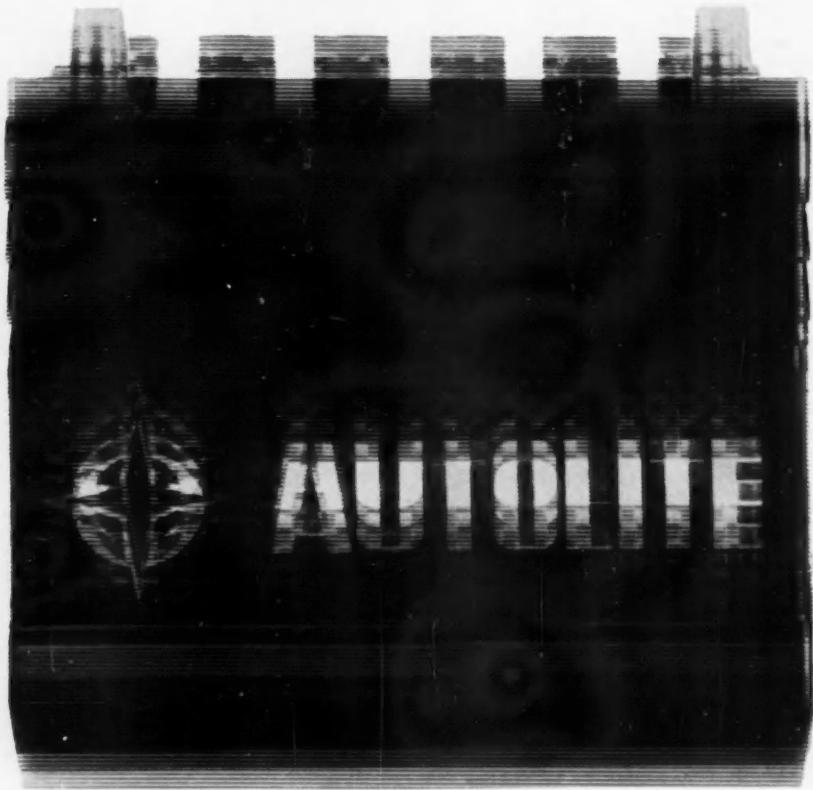
Used extensively on all types of construction equipment, trucks, industrial and farm machinery, ALMASOL 1225 saves money for thousands of owners and operators. We would welcome the opportunity of furnishing you with more complete information.

Informative Booklet Available

WRITE, WIRE OR PHONE DEPT. CCJ-2

	LUBRICATION ENGINEERS INC.	
Fort Worth 11, Texas		
Custom Built Lubricants for Heavy Equipment		
NAME _____		
FIRM _____		
ADDRESS _____		
CITY _____		

More details? Circle 264 on reply card



TOO TOUGH TO SHAKE DOWN

The Autolite Anchor Bond Battery. Its power-producing plates are anchored to the battery case with a special epoxy resin by a unique method that's patented by Autolite. This tougher-than-nails construction actually saves you money. How so? Road vibration is one of the big causes of fleet battery failure. Vibration shakes down the power-producing plates in a battery. They start

BATTERY DIVISION • TOLEDO 1, OHIO

AUTOLITE



to shed and pretty soon the battery goes dead. But Autolite Anchor Bond Batteries resist vibration shakedown, eliminate destructive shedding. That's why they outlast ordinary batteries under severe vibration conditions. And best of all, they cost no more. Next time you need batteries for your fleet, get the ones too tough to shake down . . . Autolite Anchor Bond Batteries.

NEW FRAM **WEAR-GUARD** FILTERS PROVED GREATEST ADVANCE IN ENGINE PROTECTION SINCE DETERGENT OILS!

Tests show new **Wear-Guard** construction traps up to 40% more dirt than any other filter tested! It guards engines against unnecessary wear... stops fuel waste!

The secret is in the construction! Thousands of tiny filter pockets are packed inside new Fram **Wear-Guard** Filters with new pleated fiber. Tests—including radioactive tracer techniques—prove Fram Oil and Air Filters with **Wear-Guard** will keep car engines safer than any other filters tested.

Fram's exclusive Fleet Survey System will keep your vehicles protected with new Fram **Wear-Guard** Filters with an absolute minimum of inventory! For details,

phone or write: **FRAM CORPORATION, PROVIDENCE 16, R.I.**



GENeva 4-7000

YOUR FIRST LINE OF
ENGINE PROTECTION



DENVER-CHICAGO ASSURES ECONOMICAL FLEET PERFORMANCE WITH *Clayton* DYNAMOMETERS



**ENGINES
RUN-IN AND
TESTED FOR RATED POWER AT SPECIFIED RPM**

**VEHICLES
REGULARLY
TESTED
THROUGHOUT SPEED
AND POWER RANGE
FOR TOP OPERATION**



The D-C story of high operational efficiency begins with management's demand for optimum road performance from every truck in its huge fleet. To insure this performance, Denver-Chicago uses the Clayton ENGINE DYNAMOMETER to power-test every rebuilt engine before returning it to service; employs the Clayton CHASSIS DYNAMOMETER to regularly "road test" every vehicle to assure maximum fuel economy, uninterrupted schedules, and extended vehicle life.

Write for established performance data and complete product information. Form C-1045 for Chassis Dynamometer Catalog; Form C-762 for Engine Dynamometer Catalog.

Clayton
MANUFACTURING CO.

314

433 North Temple City Boulevard / El Monte, California

182

More details? Circle 203 on reply card inside back cover

Foam Insulation

Continued from Page 103

Haskelite's body uses polystyrene foam rather than urethane . . . so, chances are, the following comparisons made (by Haskelite) against more conventional bodies could be even more dramatic on the company's urethane foam insulated bodies.

Based on a 16-ft body designed to hold zero with an ambient or outside temperature of 100 deg, Haskelite says its foam-insulated body . . .

- Has a rated cooling demand of 2772 Btu per hour as compared to 3267 Btu per hour for a conventional body.
- Requires 39.6 sq ft of cold-plate area as compared to 46.7 sq ft for the conventional body.
- Weighs 2706 lb, permitting up to 1000 lb more payload . . . or allowing use of a lighter weight chassis.

With the same payload but with lighter weight chassis, gives a \$3400 saving in chassis cost, \$19 in registration fees (based on Michigan's scale), \$70 in refrigeration equipment, \$60 in maintenance.

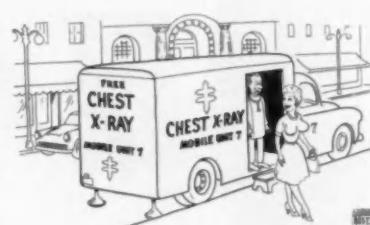
With the 1000 lb more payload choice, produces \$3900 more revenue per year (based on a Detroit-Chicago run at \$1.56 per 100 lb).

Has no vertical framing members, thereby offering full insulation thickness all around.

Eliminates in-the-wall moisture from wind leakage and condensation (as described earlier in this article).

END

Please Resume Reading Page 104



COMMERCIAL CAR JOURNAL, March, 1961

Safe handling of LP gas . . .

Continued from Page 119

most cases the container has held the chassis together.)

All tank openings, except the relief valve, are equipped with either an excess flow valve, back flow check valve, or a 54 orifice. All main liquid and vapor lines also have a manual shut-off located as close to the container as practical.

Each truck carries two fire extinguishers. One is placed on each side to increase the chance of having one available. Usually a small extinguisher is also carried in the cab.

Our safety maintenance includes:

- Periodic testing of relief valves and excess flow valves (checked at least yearly, but more often with new tanks which have a scaling problem).

- Monthly check on strainers to make sure lines are not choked with scale.

- Provision of tapered wood

plugs for use in emergencies. They can be used to stopper a broken valve or broken pipe effectively.

- Monthly inspection of tanks by supervisors for painting, readiness of fire extinguishers and hose condition.

- Proper requalification of truck tanks as required by ICC.

Here are the standards we set



Lifts All CARS and FLATBED TRUCKS



ONLY TWO STAGE LIFT

1st Stage - 43"

2nd Stage - 62"

★ Will not damage soft bumpers
Picks up by bumper brackets.

★ Never becomes obsolete —
Inexpensive adapters available.

★ 5,000 Lb. Capacity

★ New long-lasting Hycar Cup in cylinder.

7-Ton SAV-T-HOIST also available

Write for complete information:

SAV-T-ENGINEERING CO. • 316 E Beach Ave., Inglewood, Calif.

More details? Circle 205 on reply card inside back cover



Model P600

for ourselves in our station design and procedures:

- Isolate the truck charging spot from plant buildings or storage tanks.

- Insist that driver leaves truck keys at rear of truck during deliveries rather than in the cab. That way he must go to the rear of the truck where he can also make sure no filling hose is connected. (Electrical systems are available for this purpose, but we find the key system is more effective.)

- Trucks parked after filling, by a night attendant for instance, are parked away from the charging spot and isolated from each other by at least one truck length.

- Trucks are not parked near buildings where there is a means of ignition, nor near flammable materials which might expose the truck to fire.

- When gas shipments are received by transport, tank trucks should not make it necessary to violate any of the above rules.

END

Please Resume Reading Page 120

MOTORITE DIESEL COMPRESSION TESTER



Connection of MOTORITE to engine is by means of interchangeable adapters replacing the fuel injector in the cylinder. "Universal" adapter illustrated at left is adjustable for use on more than 100 popular makes and models of Diesels. Additional adapters are available from stock for all Diesel engines listed at right. For other Diesel engines special adapters are made to order.

Allis-Chalmers
Buda
Caterpillar
Cletrac
Cochrane
Continental
Cummins
Ferguson "Major"
General Motors
Gray Marine
Henschel
Hercules
Intern. Harvester
J. I. Case
John Deere
Leyland
Mack
Massey-Harris
Minneapolis-Moline
Murphy
Oliver
Packard
Perkins
Shepherd
Waukesha

Indispensable for servicing busses, trucks, farm tractors, contractors' machinery, drilling rigs and other mobile Diesel-powered equipment.

Mail Coupon For
FREE
Service Manual

BACHARACH INDUSTRIAL INSTRUMENT COMPANY
200 N. Braddock Ave., Pittsburgh 8, Pa.

Send me FREE copy of your Service Manual Bul. 692
 Send me Product Leaflet 646 on the MOTORITE



NAME _____

COMPANY _____

STREET _____

CITY & STATE _____ ZIP _____

DCT-17

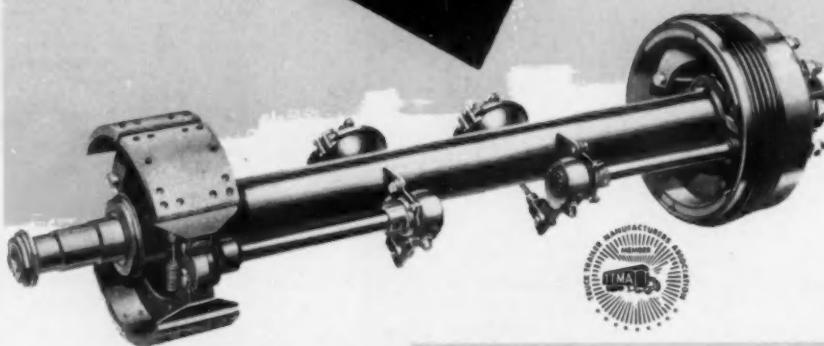
More details? Circle 204 on reply card inside back cover

**"TO STAY FIRST...
YOU HAVE
TO BE
FIRST"**

These trailer axle design firsts . . . the result of more than fifty years of experience . . . are some of the many reasons why Rockwell-Standard has produced over 10,000,000 axles for America's vehicles!



Rockwell-Standard Maintains its Leadership with New Axle Developments!



Another Product of...

ROCKWELL-STANDARD
CORPORATION



Transmission and Axle Division, Detroit 32, Michigan



CAB FOR A KING

Posed by Mr. Carl Crim, recent National Driver of the Year, in his new Autocar A102T, which he leases to Hugh Breeding, Inc., Tulsa, Okla.

**No man could ride in a finer
truck cab than this.
Because there isn't any.**

Wherever trucks are driven, the Autocar cab is the one most wanted—for its comfort and safety, for its view of the road, the convenience of its controls, for its elbow room,

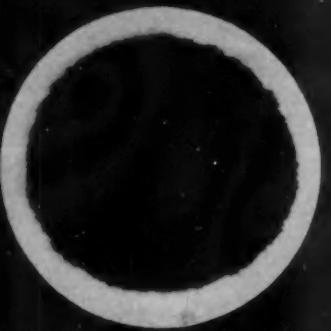
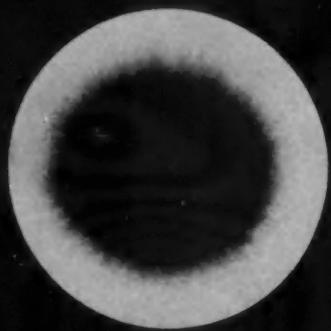
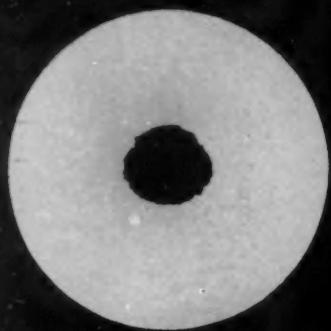
roadability, and the care with which each truck is engineered and built.

This cab is the right introduction to Autocar—the "World's Finest"—because the Autocar is quality like that from the ground up—ruggedly built, superb in performance, in every way master of the job it was custom-designed to do. Why settle for less?

More details? Circle 207 on reply card inside back cover



DIVISION OF
THE WHITE MOTOR COMPANY
EXTON, PA.



3 drops of oil—3 conditions. First oil doesn't spread and has lost dispersancy. Second oil spreads into paper, has good dispersancy. Third spot indicates good dispersancy, but high soot level. Shell "Oilprint" Analysis can give you advance warning of engine trouble.

BULLETIN:

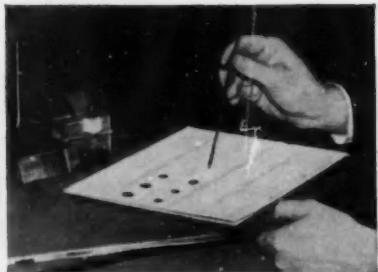
Shell 5-minute "Oilprint" Analysis shows what's going on inside your engines; now used by over 500 fleet operators

Now, with Shell's ADC® "Oilprint" Analysis, you can test used engine oils in your own shop. And in a matter of minutes.

Read how this unique testing process can give you advance warning of engine trouble, help you set up more effective maintenance schedules and reduce roadside breakdowns.

A drop of oil from an engine is an excellent indicator of the lubricant's condition and—to the experienced eye—of the engine's condition.

It can tell you if the oil is still satisfactory for continued service. It can provide clues to faulty carburetion. It can show a coolant leak. It can help you schedule proper oil drain intervals. And much more.



"Oilprint" Analysis can be made in your own shop.

How do you get this information quickly?

Over 500 fleet operators have found the answer in Shell's 5-minute "Oilprint" Analysis.

All that's needed: Shell's ADC "Oilprint" Analysis Chart and a warmed-up engine.

A few drops tell the story

Take the problem of sludge accumulation.

If the oil makes a dark concentrated spot, it has lost its ability to hold sludge particles in suspension. Poor dispersancy, our technical people call it. The oil should be changed.

By adding Shell Indicator Fluid, a Shell Representative can tell if the oil still has its anti-wear properties. In Shell's Motor Oils for fleet use, these

properties guard against engine wear.

You can also determine the relative amount of soot and contaminants—such as wear debris and dust that might foul your engine. If there's a water leak or anti-freeze contamination, proper evaluation of an oilprint will reveal it.

Free Demonstration

Your Shell Industrial Products Representative will gladly give you a free demonstration of the Shell ADC "Oilprint" Analysis. He will show you how to set up a "life cycle" report of every engine you operate. Call him today.



A BULLETIN FROM SHELL

—where 1,997 scientists are helping to provide better products for industry.



THIS IS THE BEGINNING OF THE FINEST TUNE-UP JOB YOU'VE EVER DONE...

A MOTORCRAFT QUALITY IGNITION POINT SET THAT'S BUILT TO BACK UP YOUR BEST WORK
WITH RELIABLE FLEET PERFORMANCE!

The all-new line of MOTORCRAFT parts is built to rigid factory specifications to provide reliability that will help you keep your fleet *on the move* at lowest cost!

That means better maintenance and lower operating costs in the long run! Here, for example, are a few reasons *why* MOTORCRAFT point sets are *reliable* . . .

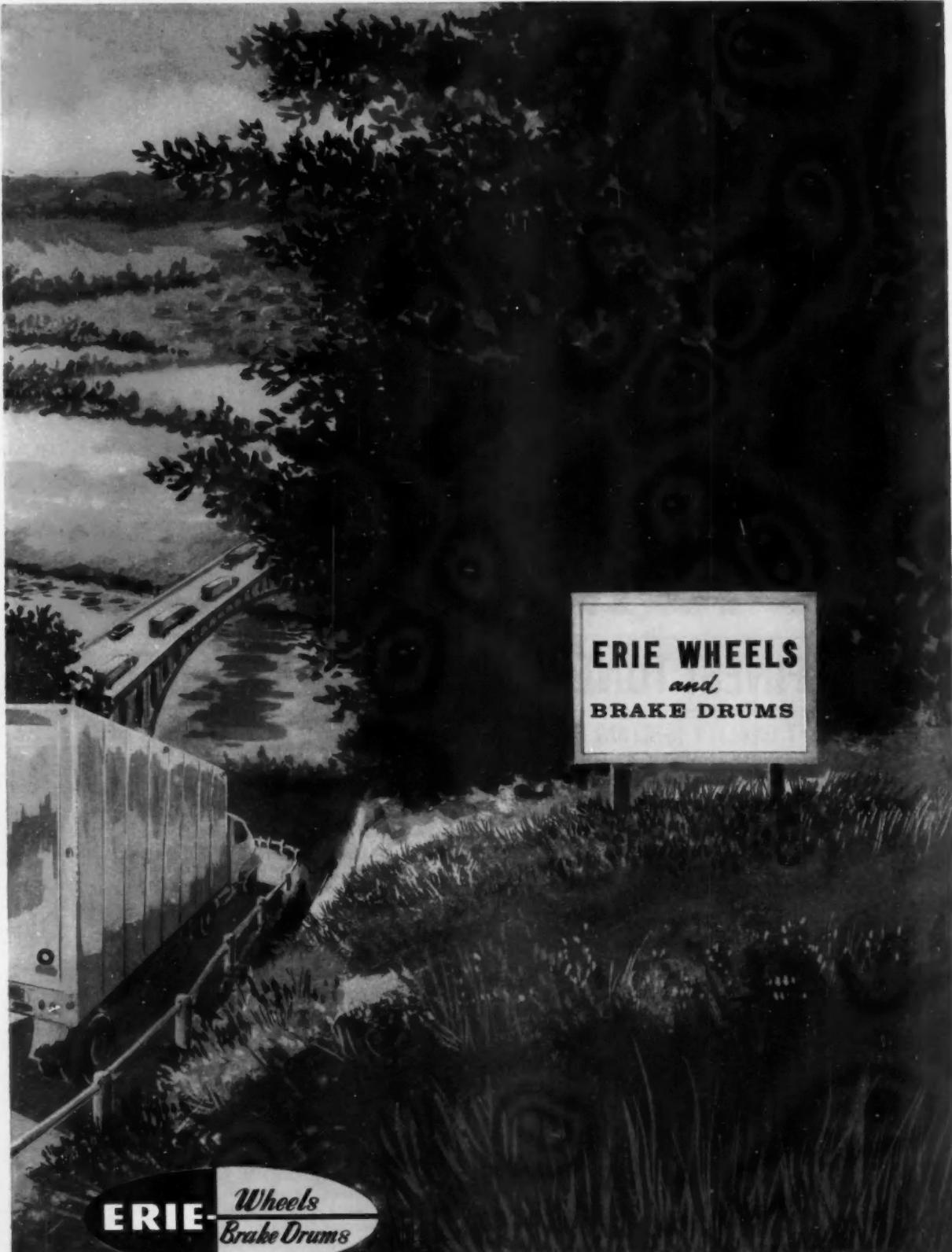


- Two metal pieces, instead of one, are used for conductor and spring . . . in controlling breaker arm movement and electrical characteristics.
- Insulation eyelet is designed to maintain proper tension throughout the life of the points.
- Rubbing block is double-riveted to movable breaker arm, and secure fastening is further provided by rigorous endurance test that "bounces" the rubbing block time and again . . . much harder than in normal usage.
- MOTORCRAFT tungsten tips are cut with a diamond wheel from the highest grade (99.3% pure) tungsten rod . . . only tungsten rod insures superior graining structure.
- The stationary point is ventilated . . . MOTORCRAFT points last up to three times longer than non-ventilated types.

And, throughout assembly . . . 21 gauges, including functional test equipment, are used to inspect the point assemblies. High quality control like this is *typical* of the manufacture of *all* the parts in the MOTORCRAFT line. It's a line designed, built, priced and available to suit your fleet requirements. MOTORCRAFT parts cover a wide range for electrical, ignition and carburetor tune-up and repair jobs, and are available from leading jobbers everywhere. Give your jobber a call—and ask about MOTORCRAFT's Quick Reference catalog.

BUILT TO BACK UP YOUR BEST WORK





ERIE WHEELS
and
BRAKE DRUMS

AUTOMOTIVE WHEEL DIVISION ERIE MALLEABLE IRON CO., ERIE, PA.

Better products, *faster*, from your Bower Distributor:



H m m m m m m m m .

Where's that hum coming from? Could be the sound of rubber speeding over concrete—tires protesting their load. Or the engine settling down after straining its way to over-the-road speed. One thing's sure, it's not the wheel bearings. They're Bower!

Bower Roller Bearings are designed to roll smoothly

even under the heaviest loads. With oversize flanges, deeper oil grooves for improved lubrication, and super-finish raceways, Bower Bearings last longer. And Bower tapered and straight roller bearings are immediately available from your Bower Distributor.

Call him today to replenish your own bearing stocks!



BOWER ROLLER BEARINGS

FEDERAL-MOGUL SERVICE

DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC. • DETROIT 13, MICH.



Nylon is fine for stretch hose but not for no-stretch tires!

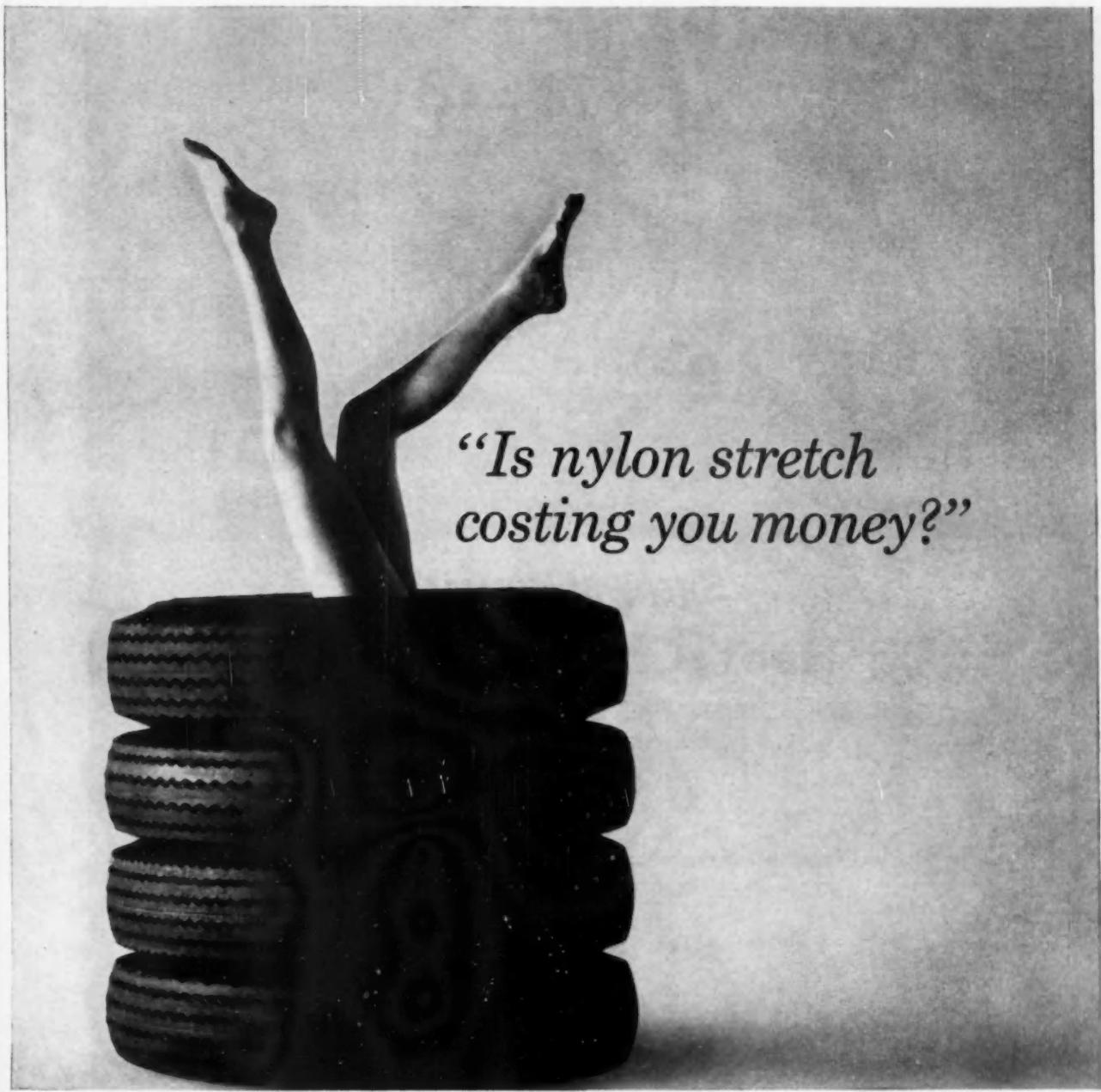
TYREX RAYON TIRE CORD GIVES 33% LESS GROWTH THAN NYLON.
LESS GROWTH MEANS MORE MILEAGE...LESS GROOVE-CRACKING...
BETTER MATCHING ON DUAL MOUNTS.

High-speed hauls send tire temperatures soaring. That's why nylon tires—*unlike TYREX rayon tires*—develop serious "heat stretch" that ups your costs. Nylon, a thermoplastic material, by its very nature is affected far more by temperature change. And that's why TYREX rayon tire cord gives you these big pluses:

LONG, MONEY-SAVING MILEAGE—40.2% more miles in continuing Texas fleet tests . . . (on tires made to sell in the same general level range) . . . with mileages now ranging from 80,000 to 100,000 miles!

EASIER MATCHING ON DUAL MOUNTS—Tires with excessive growth are hard to match when replacing. They carry more load and wear faster, too.

TYREX INC., Empire State Bldg., New York 1, N. Y. TYREX (Reg. U. S. Pat. Off.) is a collective trademark of TYREX Inc. for rayon tire yarn and cord.



*"Is nylon stretch
costing you money?"*

LESS GROOVE-CRACKING—That means TYREX rayon cord gets less exposure to damaging moisture, grit, chemicals.

KEEPS MORE OF ITS STRENGTH as tire heat soars.

No wonder, fleets that test TYREX rayon tires vs. nylon tires are going over to TYREX rayon cord. For more profits, less downtime, fewer headaches, why don't you?

TYREX[®] rayon
TIRE CORD
AVOIDS NYLON STRETCH!

TYREX rayon yarn and cord is also produced and available in Canada.



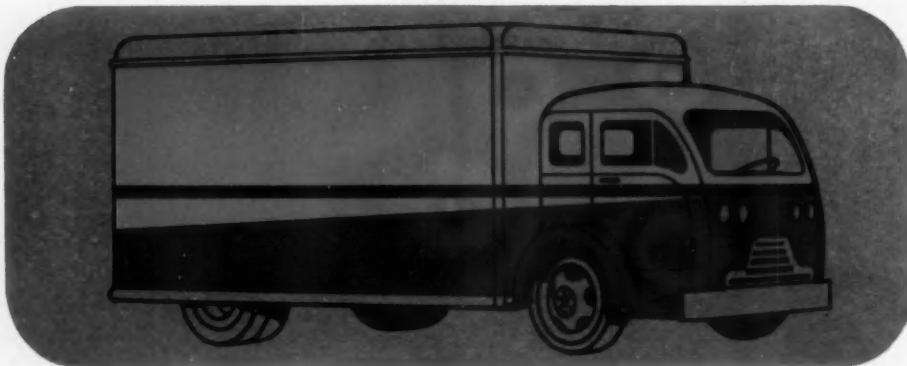
RAY SMITH ASSOCIATED CO.'S. SWITCHING TO TYREX RAYON TIRES. The fleet on which the above mileage tests are being made includes 383 tractors, 505 trailers that haul cement. Amazing test results have them switching!

SEE YOUR FLEET IN 1250 COLOR COMBINATIONS



SHERWIN-WILLIAMS

Fleet Color Visualizer



You can select new, eye-catching fleet colors—see exactly how they will look in as many as 1250 different color combinations—without stirring a foot from your desk. • You can do it fast, too, with the extra-convenient, extra-practical Sherwin-Williams Fleet Color Visualizer. • A trained Sherwin-Williams representative will help you select functional colors just right for *your* fleet—ones that will do a better *selling* job for you. • Eye-appealing color combinations are not the whole story, though. With Sherwin-Williams Kem® Transport Enamel, you

save time and money. Kem Transport Enamel is a fast-drying, easy-applying, long, long-wearing finish. • Whether you plan to re-design your fleet now, or in the near future, it will pay you to take a look at the Fleet Color Visualizer, and to get details on Sherwin-Williams Kem Transport Enamel. • Write The Sherwin-Williams Company, Automotive Division, Cleveland 1, Ohio, and Montreal, Canada. Export Division, Newark 1, New Jersey.



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you need this
New.. COMPACT CATALOG
that provides BROAD COVERAGE of**

**the BRAKE
PARTS
LINE**



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Philadelphia 39, Pa.



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Philadelphia 39, Pa.

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to find out is as easy as

1

Leave the reply cards at right folded out as they are now. Turn to the first page of the WHAT'S NEW section. Now all you have to do is circle on one of the reply cards the numbers of the items that interest you—then drop the card in the mail. CCJ does all the rest. We'll see to it that your request reaches the right person—at no cost to you.

for quick product information ►

2

Same free service applies to the products described by the advertisers in this issue. For further details on these, just circle on the same reply card the numbers that appear adjacent to the ads about the products and services you'd like to know more about.

to write the editors ►

3

And—if there's some problem giving you a special headache, don't reach for the aspirin. Use the special reply card at the right instead. It puts CCJ's editors to work for you—helping to find the answer to your question.



in publications for fleets

Selecting the right reefer units for trailer bodies
has been a subject for study by the National Bureau of Standards. The research program results are reported in "A Rating Method for Refrigerated Trailer Bodies". The booklet covers the development of a practical method of rating the performance, or effectiveness, of reefer bodies. For more information, write directly to Agricultural Marketing Service, U. S. Department of Agriculture, Washington 25, D. C.

Lube equipment
for 1961 Fords and other vehicles with removable plugs instead of grease fittings are shown in Bulletin No. 543 from Lincoln Engineering Co., St. Louis, Mo.

For free copy, circle 304

Turn over. You'll find many more interesting reports for fleets on the other side



For quick information about items described in this issue, circle the appropriate numbers, fill out the return address blanks below and mail

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104	124	144	164	184	204	224	244	264	284	304	324	344	364	384	404	424	444	464	484
105	125	145	165	185	205	225	245	265	285	305	325	345	365	385	405	425	445	465	485
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117	137	157	177	197	217	237	257	277	297	317	337	357	377	397	417	437	457	477	497
118	138	158	178	198	218	238	258	278	298	318	338	358	378	398	418	438	458	478	498
119	139	159	179	199	219	239	259	279	299	319	339	359	379	399	419	439	459	479	499

March 1961 (do not mail after May 31, 1961)

NAME POSITION SERVICE NO
 NAME OF FLEET FACILITIES? YES
 ADDRESS
 No. of vehicles: Trucks Tractors Trailers Psgr. Cars Other

WHAT WOULD YOU LIKE TO KNOW MORE ABOUT?

ASK THE EDITOR—a quick way to get more information

Dear Editors:

month-day-year

NAME POSITION SERVICE NO
 LINE OF BUSINESS
 NAME OF FLEET FACILITIES? YES
 ADDRESS
 No. of vehicles: Trucks Tractors Trailers Psgr. Cars Other

For quick answer, write your name and address clearly

For quick information about items described in this issue, circle the appropriate numbers, fill out the return address blanks below and mail

100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480
101	121	141	161	181	201	221	241	261	281	301	321	341	361	381	401	421	441	461	481
102	122	142	162	182	202	222	242	262	282	302	322	342	362	382	402	422	442	462	482
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NAME POSITION SERVICE NO
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in publications for fleets

It's easy to get more details about the items described.
Just fold out and use free reply cards inside back cover

Exhaust fume cleanup
device for use on vehicles and in the shop is described in a booklet just published by Oxy-Catalyst, Inc., Berwyn, Pa. It's called "Clean Up Your Exhaust Fumes with Oxy-Catalyst Exhaust Purifiers."

For free copy, circle 305

Laminated safety glass for all makes of American and foreign-made vehicles is listed with complete specifications in the "Shat-R-Proof Auto Glass Parts Catalog for 1961," just released by Shatterproof Glass Corp., Detroit.

For free copy, circle 306

Automotive parts catalog set from Thompson Ramo Wooldridge, Inc., Cleveland, Ohio, consists of four volumes. Major parts lines covered are engine parts, chassis parts, engine bearings and automatic transmission parts.

For more details, circle 307

Fleet shop equipment line manufactured by Bay Products, Inc., Philadelphia, is shown in a new catalog. The line includes benches, bins, cabinets, shelving, stock carts and special accessory equipment.

For free copy, circle 308

Tractors, loaders and other equipment available from Eimco Corp., Salt Lake City, Utah, are illustrated and described in a new booklet (Catalog No. AP-20) titled "Quality Products from Eimco."

For free copy, circle 309

Film shows bearing care and handling rules. The new full-color sound slide film instructs fleet maintenance men in the care of ball and roller bearings in various applications. It's available from Federal-Mogul Service, Detroit.

For more details, circle 310

Federal-aid highways are subject of a report titled "The Nation's Highway Program." Available from the Chamber of Commerce of the U. S., it was prepared to report on the current progress of the program and the major problems now faced by Congress concerning its continuation.

For more information, circle 311 on reply card

FCC rules and regulations published in volume form are now offered on subscription basis which includes amendments for an indefinite period. Volumes containing Federal Communications Commission Parts of particular interest to fleet operators are listed below with order number and subscription price. To order, write directly to Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

Volume I (Catalog No. CC 1.6/1:960)—Price: \$2.50. Contains FCC Parts:

0. Statements of organization, delegations of authority, other information.
1. Practice and procedure.
13. Commercial radio operators.

17. Construction, marking, lighting of antenna structures.

Volume II (Catalog No. CC 1.6/3:959)—Price: \$2. Includes FCC Part:

2. Frequency allocations and radio treaty matters; general rules and regulations.

Volume V (Catalog No. CC 1.6/5:959)—Price: \$2.50. Includes FCC Parts:

10. Public safety radio services.

11. Industrial radio services.

16. Land transportation radio services.

Volume VI (Catalog No. CC 1.6/6:959)—Price: \$1.25. Includes FCC Parts:

12. Amateur radio service.

19. Citizens radio service.

Volume VII (Catalog No. CC 1.6/7:959)—Price: \$2. Includes FCC Part:

21. Domestic public radio services (other than Maritime mobile).

1961 edition of the ATA Catalog of Services and Supplies is now available from the American Trucking Assns., Washington, D. C. Topics include safety and freight claims, traffic, public relations, accounting, labor relations, watching services, financial and operating statistics, basic services and the bulletin advisory service.

To get more details, circle 312 on reply card

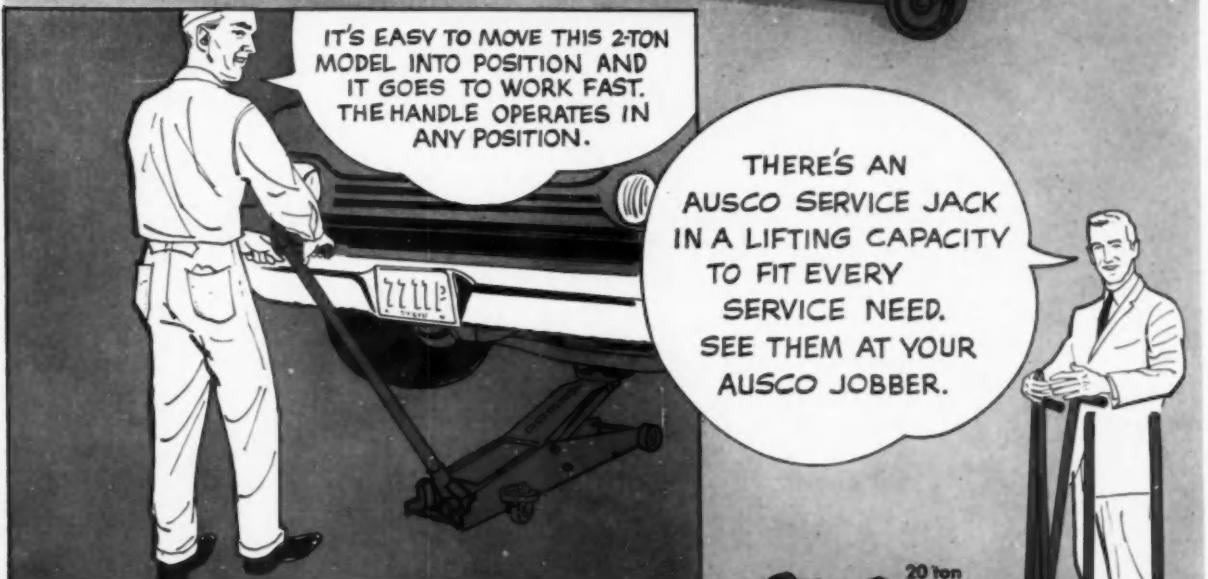
Truck terminal financing is explained in "Financing and Forecasting Needs of Motor Carrier Terminals," a new booklet issued by the National Accounting and Finance Council, American Trucking Assns., Washington, D. C. Cost is \$5 a copy.

To get more details, circle 313 on reply card

Truck cost control for private carrier fleets is the subject of a booklet just published by Private Carrier Conference, Inc., Washington, D. C. Titled "Controlling Truck Costs in Private Operations", it covers over-the-road driver purchases, truck leasing, insurance costs and savings through improved safety practices and other cost control data.

To get more information, circle 314 on reply card

*Easy-to-handle, fast-
acting AUSCO
JACKS speed
up service in
our shop*

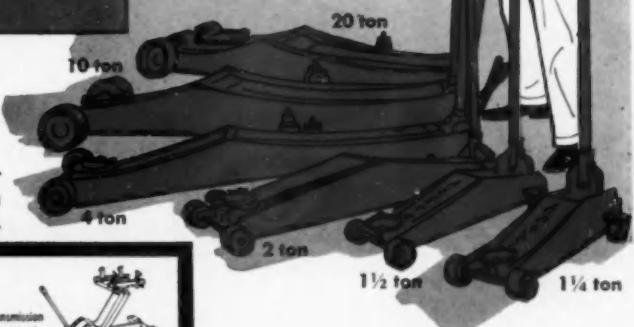


One End Lift



AUSCO

AUTO SPECIALTIES MFG. CO.
ST. JOSEPH, MICHIGAN
WINDSOR, ONTARIO, CANADA



Garage
Horses



Saf-Lift
Bumper
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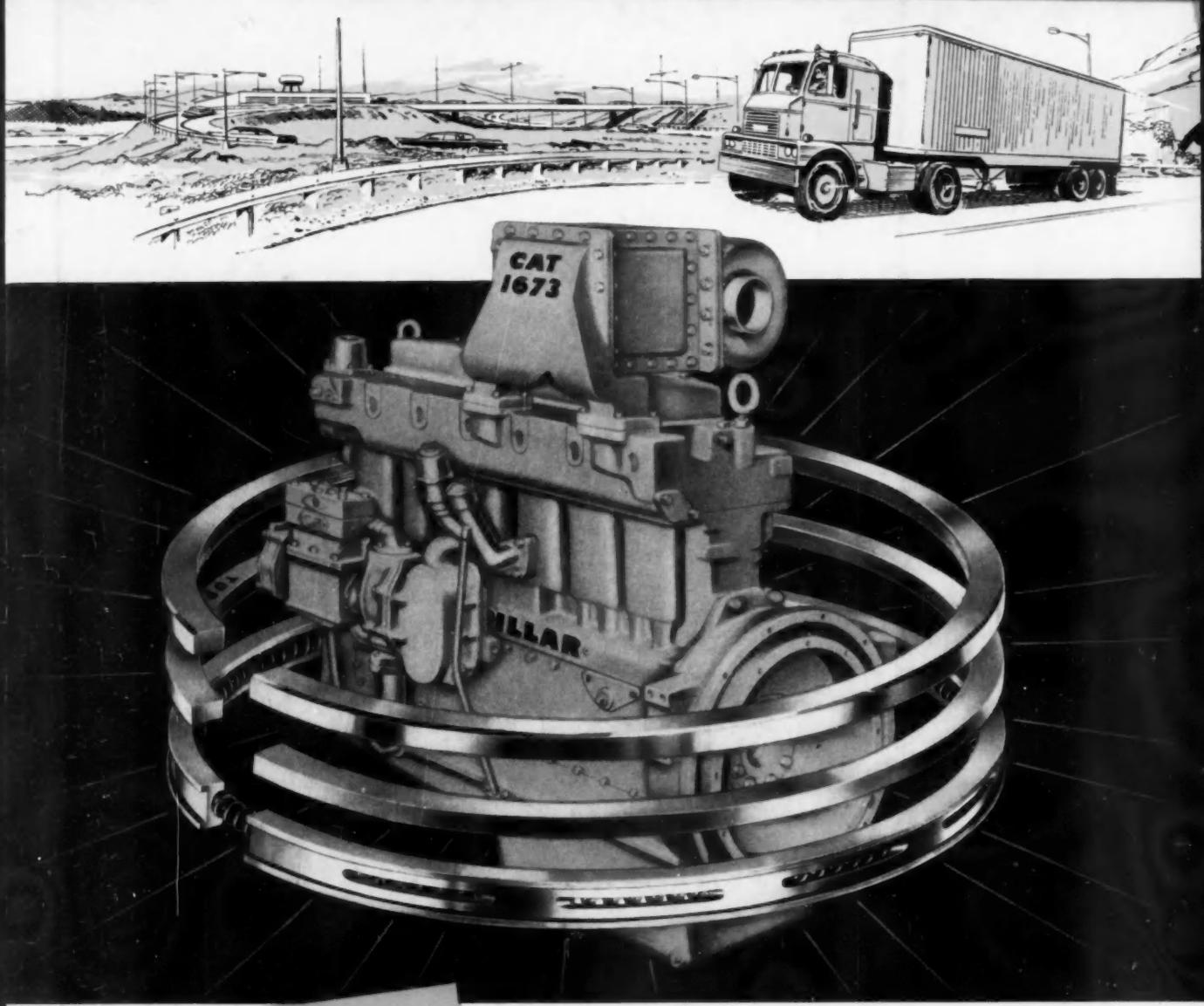
Hydraulic
Hand
Jacks



Transmission
Handlers



More details? Circle 101 on reply card inside back cover



New Caterpillar. 1673 Diesel Truck Engine

EQUIPPED WITH
**PERFECT CIRCLE
CHROME PISTON
RINGS**

Based on a design proved in thousands of diesel engines in the field, Caterpillar's new 220 horsepower 1673 Diesel Truck Engine combines a precombustion fuel system, turbocharging and aftercooling for outstanding performance and economy.

The precombustion chamber assures full burning of fuel at all load conditions, utilizing a large single orifice that prevents fouling and makes possible the use of less expensive fuels.

By cooling the air of this turbocharged engine with an aftercooler, the power of the 1673 is increased significantly.

To deliver top power and oil control in each of the 6 cylinders, Caterpillar employs Perfect Circle piston rings on an aluminum-alloy piston with cast iron top ring groove. These rings were developed jointly by Caterpillar and Perfect Circle engineers and performance proved in extensive tests on Caterpillar Engines.

The long-wearing M-alloy iron top ring is plated with thick, solid chrome for protection against high-compression wear, scuffing and scoring. The oil ring, with tempered steel coil spring, is specially designed for lasting face unit pressure and nonclogging performance.

To get top performance when reconditioning your Caterpillar Engines, see your Caterpillar Dealer for replacement piston rings.

PERFECT CIRCLE

PISTON RINGS • POWER SERVICE PRODUCTS
HAGERSTOWN, INDIANA • DON MILLS, ONTARIO, CANADA

More details? Circle 102 on reply card inside back cover

